THE LANCET.

A Journal of British and Foreign Medicine, Surgery, Obstetrics, Physiology, Chemistry, Pharmacology, Public Health, and News.

TELEGRAPHIC ADDRESS—LANCET, WESTRAND LONDON TELEPHONE NUMBER—GERRARD 5356

No. X. OF VOL. I., 1913.
No. 4671. Vol. CLXXXIV. LONDON, SATURDAY, MARCH 8, 1913. Pp. 160—Price 6d.

ROYAL SOCIETY OF MEDICINE,

1, WIMPOLE STREET.

For DIARY of MEETINGS see page 733

DISEASES OF THE STOMACH.
By W. SOLTAU FENWICK, M.D.
CANCER AND TUMOURS. Royal 8vo. 10s. 6d.
ULCER AND ITS CONSEQUENCES. Royal 8vo 10s. 6d.
London: J. & A. Churchill, 7, Great Marlborough-street, W.

DISORDERS OF DIGESTION IN CHILDHOOD. Demy 8vo, 10s. 6d.
DYSPEPSIA OF PHTHISIS. Demy 8vo. 6s.
London: H. K. Lewis, 136, Gower-street, W.C.

BOOKS BY SYDNEY STEPHENSON,
D.O. (Oxon.)
EYE-STRAIN IN EVERYDAY PRACTICE.
1913. Price 3s. 6d. net.
The Ophthalmoscope Press, 24-26, Thayer-street, W.
OPHTHALMIC NURSING.
Third edition. 1912. Price 3s. 6d. net.
The Scientific Press, Southampton-street, Strand, W.C.

Recently Published. Pp. viii.+304. Price 7s. 6d. net.
FOOD INSPECTORS' ENCYCLOPÆDIA.
By A. HORACE WALKER, M.A.San.I., Sanitary Inspector to the Metropolitan Borough of St. Pancras, &c
"The information is correct, it is lucidly expressed, and very comprehensive."—MEDICAL OFFICER.
London: Baillière, Tindall & Cox, 8, Henrietta-street, Covent Garden.

Fcap. 8vo. Pp. xii.+346, with 21 Illustrations. Limp leather, gilt top. Price 5s. net.
MILITARY SANITATION and HYGIENE.
By E. BLAKE KNOX, M.D., D.P.H., Major R.A.M.C.
"This is an excellent manual."—THE LANCET.
London: Baillière, Tindall & Cox, 8, Henrietta-street, Covent Garden.

By LESLIE THORNE THORNE, M.D., B.S.
NAUHEIM TREATMENT of DISEASES of the HEART and CIRCULATION.
Third Edition. Pp. 91. With 28 Photographs of the Schott Exercises and 28 other Illustrations. Price 3s. 6d. net.
"It is the best and most practical work on the subject."
—WEST LONDON MEDICAL JOURNAL.
London: Baillière, Tindall & Cox, 8, Henrietta-st., Covent Garden, W.C.

By P. LOCKHART MUMMERY, F.R.C.S., Senior Assistant Surgeon to St. Mark's Hospital for Diseases of the Rectum.
THE SIGMOIDOSCOPE: a Clinical Handbook on the Examination of the Rectum and Pelvic Colon.
Pp. x.+88, with 19 Figures. Price 3s. 6d. net.
London: Baillière, Tindall & Cox, 8, Henrietta-st., Covent Garden, W.C.

BY E. HURRY FENWICK, F.R.C.S.,
Professor of Urology at the London Hospital.
President Second Congress of International Association of Urology.

With 80 Plates and 15 Text-Figures. 10s. 6d. net.
THE VALUE of RADIOGRAPHY in the DIAGNOSIS & TREATMENT of URINARY STONE.
A Study in Clinical and Operative Surgery.

London: J. & A. Churchill, 7, Great Marlborough-street.

By J. S. KELLETT SMITH, F.R.C.S.Eng.
LATERAL SPINAL CURVATURE AND FLAT FOOT, AND THEIR TREATMENT BY EXERCISES.
"We may say at once that he has carried out his idea admirably. ..... This is eminently a book suited for the general practitioner wishful to treat the slighter forms of scoliosis or pes planus."—LANCET.
5s. 6d. net. 82 Illustrations. Bristol: J. Wright & Sons, Ltd.

Just Published, 8vo, 4s. 6d. net.
SYPHILIS, with SPECIAL REFERENCE to (a) Its Prevalence and Intensity in the Past and at the Present Day; (b) Its Relation to Public Health, including Congenital Syphilis; (c) The Treatment of the Disease.
A Discussion held by the Royal Society of Medicine, opened by Sir HENRY MORRIS, Bt., Dr. NORMAN MOORE, Mr. D'ARCY POWER, and Dr. F. W. MOTT, F.R.S. With Contributions by Mr. Ernest Lane, Mr. Jonathan Hutchinson, Mr. J. H. R. McDonagh, Major H. C. French, Major T. W. Gibbard, Sir George Savage, and others.
Longmans, Green & Co., 39, Paternoster-row, London, E.C.

This Day. 200 pp., Crown 8vo, 5s. net; by post, 5s. 4d.
A MANUAL OF IMMUNITY
FOR STUDENTS AND PRACTITIONERS.
By ELIZABETH T. FRASER, M.D.(Glas.),
Late Assistant Bacteriologist, Glasgow Royal Infirmary; Beit Research Fellow.
Glasgow: James Maclehose and Sons, Publishers to the University.
London: Macmillan & Co., Limited.

Just Published. viii. + 280 pp. Price 5s. net.
With Original Photographs and 143 Special Prescriptions.
TREATMENT of DISEASES of the SKIN
By KNOWSLEY SIBLEY, M.D. (CAMB.).
London: Edward Arnold, 41 & 43, Maddox-street, W.

ON BRONCHIAL ASTHMA:
ITS PATHOLOGY AND TREATMENT.
By J. B. BERKART, M.D.,
Late Physician to the City of London Hospital for Diseases of the Chest.
Third Edition, Revised and Abridged. 8vo, cloth, 5s. net.
Henry Frowde, Oxford University Press, Amen Corner, E.C.

"ROSE and CARLESS' SURGERY
is a trustworthy guide for the student and the practitioner."—LANCET.

Eighth Edition. Pp. xii. + 1406. With 12 coloured Plates and 581 Illustrations. Price 21s. net.
London: Baillière, Tindall & Cox, 8, Henrietta-street, Covent Garden.

New Work. Fully Illustrated. 10s. net.
BY P. LOCKHART MUMMERY, F.R.C.S.
DISEASES OF THE COLON AND THEIR SURGICAL TREATMENT.
Bristol: J. Wright & Sons, Ltd.
London: Simpkin, Marshall & Co., Ltd.

Just Published. Royal 8vo. Price 6d. net; by post, 7d.
THE SYSTEMATIC INVESTIGATION of CHRONIC AFFECTIONS of the STOMACH and INTESTINES.
By GEORGE HERSCHELL, M.D.Lond.
London: H. J. Glaisher, 55 and 57, Wigmore-street, W.

NEW EDITION. In 2 vols. 45s. net.
DEFORMITIES, including DISEASES of the BONES and JOINTS. A Text-Book of Orthopædic Surgery. Illustrated by 70 Plates and over 1000 Figures, and by Notes of Cases.
By A. H. TUBBY, M.S.Lond., F.R.C.S.Eng.
Second Edition: "The standard text-book in English on the subject."
—THE LANCET.
First Edition: "Standard work on the subject in the English language."—BRITISH MEDICAL JOURNAL.
Macmillan & Co., Ltd., St. Martin-street, London, W.C.

THE INDICATIONS for WIDELY RESECTING the BLADDER WALLS in VESICAL GROWTH.
With 4 Plates. Cloth. 3s. 6d. net.
By E. HURRY FENWICK, F.R.C.S.,
Professor of Urology at the London Hospital;
Vice-President of International Society of Urology, and President to its Second Congress.
New Work.
London: Adlard & Son, Bartholomew-close.

As a SAFEGUARD against SEPSIS

"ASEPSO" (Cook's Antiseptic Soap), 3% Biniodide, is unequalled. For sterilising the hands before and after an operation or accouchement it will be found far superior to perchloride. It can be easily carried in the bag and is cleanly to use.

SEND A POST-CARD FOR FREE SAMPLE.

EDWARD COOK & CO., Ltd. (The Soap and Disinfectant Specialists), **BOW, LONDON, E.**

"Sauermilch"

THE PREMIER Lactic Acid or Soured Milk Preparation.

Prepared in our own Milk Laboratories under the direct control of a skilled bacteriological staff

WELFORD & SONS (Dairy Company), Ltd.

Chief Offices and Milk Laboratories : : : ELGIN AVENUE, LONDON, W.

Principal Telephone: "Paddington 5440" (2 Lines). Telegraphic Address: "Welfords, London."

Valentine's Meat-Juice

For **Quieting** the **Irritable Stomach** in **Pregnancy**, for **Rapidly Restoring** the **Vital Forces** in **Hemorrhage**, for **Sustaining** and **Strengthening** in **Long** and **Exhausting Labor, Valentine's Meat-Juice** is Extensively employed in

Obstetrical Practice

Dr. M. DeCristoforis, *Prof. Lecturer on Midwifery and Gynaecology, Milan, Italy:* "The preparation, VALENTINE'S MEAT-JUICE, has been successfully used by me in a serious case of acute puerperal hemorrhage. The patient could take no food or drink. VALENTINE'S MEAT-JUICE was completely retained and restored very promptly the strength and the cardiac impulsion."

Dr. E. Duloroy, *Physician Accoucher to the International Hospital, Paris, France:* "A young accouchée, in a very weak condition and suffering from stomach trouble, could retain no food, but was able to assimilate VALENTINE'S MEAT-JUICE given at first in small doses. An improvement was quickly visible, the patient recovered her strength and is today in good health."

For Sale by European and American Chemists and Druggists.

VALENTINE'S MEAT-JUICE COMPANY,

RICHMOND, VIRGINIA, U. S. A.

D 126

THE LANCET.

No. 4671. Vol. CLXXXIV. LONDON, SATURDAY, MARCH 8, 1913. Pp. 160.

CONTENTS.

The whole of the literary matter in THE LANCET is copyright.

HUNTERIAN LECTURE on Peritoneal Adhesions (An Experimental Study). Delivered before the Royal College of Surgeons of England on Feb. 10th, 1913, by JOSEPH B. ADAMS, M.B., M.S.Lond., F.R.C.S.Eng., Senior Assistant Surgeon, East London Hospital for Children; Demonstrator of Anatomy, St. Thomas's Hospital Medical School.—(*Illustrated*)..... 663

LETTSOMIAN LECTURES (The) on the Surgery of the Thyroid Gland, with Special Reference to Exophthalmic Goitre. Delivered before the Medical Society of London on Feb. 3rd and 17th and March 3rd, 1913, by JAMES BERRY, B.S Lond., F.R.C.S. Eng., Senior Surgeon and Lecturer on Clinical Surgery, Royal Free Hospital, &c.—Lecture II..... 668

ORIGINAL ARTICLES.

Principles of Percussion and Auscultation. By FRIEDRICH MÜLLER, M.D., LL.D., Professor of Clinical Medicine at the University of Munich..... 674

The Blood in Cancer with Bone Metastases. By GORDON R. WARD, M.B., B.S. Lond., M.R.C.S.Eng.—(*Illustrated*).. 676

Fatal Hæmatemesis in a Case of Hepatic Syphilis. By DONALD E. CORE, M.D.Vict., M.R.C.P. Lond., Physician, Ancoats Hospital, Manchester..... 677

Case of Subcortical Cerebral Tumour, Tuberculous in Nature, Removed by Operation; Recovery. By GEORGE HALL, M.D.Lond., M.R.C.P. Lond., Assistant Physician, Royal Victoria Infirmary, Newcastle-on-Tyne; and H. BRUNTON ANGUS, M.S. Durh., F.R.C.S. Eng., Surgeon, Royal Victoria Infirmary.—(*Illustrated*)..... 678

The Treatment of Pulmonary Tuberculosis. By NOEL DEAN BARDSWELL, M.D. Edin., M.R.C.P. Lond. & Edin., Medical Superintendent of the King Edward VII. Sanatorium, Midhurst, Sussex.—(*To be continued*)..... 679

CLINICAL NOTES:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A Case of Aneurysm of the Descending Thoracic Aorta Presenting Some Unusual Features. By REES PHILLIPS, M.D., B.S. Lond., Assistant Medical Officer, Lambeth Infirmary..... 683

Two Cases of Frontal Sinusitis with Bone Complications. By W. S. KERR, M.B.Edin., F.R.C.S.Edin., Surgeon, Ear and Throat Department, Royal Infirmary, Sheffield... 683

Note on a Case of Large Concretion Composed Mainly of Calcium Phosphate Found Inside the Fistulous Channel in a Case of Fistula in Ano. By D. W. KEILLER MOODY, M.D., C.M. Aberd.—(*Illustrated*)..... 684

MEDICAL SOCIETIES.

ROYAL SOCIETY OF MEDICINE: SECTION FOR THE STUDY OF DISEASE IN CHILDREN:—Demonstration of Cases.—Summer Diarrhœa and Summer Heat..... 684

SECTION OF ELECTRO-THERAPEUTICS:—The Use of X Rays in the Diagnosis of Pulmonary Tuberculosis... 685

HUNTERIAN SOCIETY: Exhibition of Cases..... 686

MANCHESTER MEDICAL SOCIETY: Treatment of Syphilis by Neosalvarsan with Wassermann Control..... 687

LIVERPOOL MEDICAL INSTITUTION: Recurring Dislocation of the Shoulder.—X Ray Examination of the Stomach..... 688

ROYAL ACADEMY OF MEDICINE IN IRELAND: The Adequate Stimuli of the Respiratory Centre.—Surgical Treatment of Pelvic Thrombosis of Septic Origin.. 688

LONDON DERMATOLOGICAL SOCIETY: The Sociological Aspects of Syphilis..... 690

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY: The Nature and Extent of Menstrual Molimina during Adolescence..... 690

BRISTOL MEDICO-CHIRURGICAL SOCIETY: Treatment of Chronic Constipation..... 690

OXFORD MEDICAL SOCIETY: Exhibition of Cases..... 690

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY: Present Crisis in Anatomical Nomenclature..... 691

BRADFORD MEDICO-CHIRURGICAL SOCIETY: Puerperal Eclampsia..... 691

REVIEWS AND NOTICES OF BOOKS.

Manual of Human Embryology. Edited by Franz Keibel and Franklin P. Mall..... 691

Patologia e Terapia Chirurgica dei Calcoli della Vescica Urinaria. By Dott. Mario Schiavoni..... 692

Monaco and Monte Carlo. By Adolphe Smith..... 693

Law for Medical Men. By Fred. J. Smith, M.D.Oxon., F.R.C.P. Lond..... 694

The X Ray Treatment of Skin Diseases. By Dr. Frank Schultz..... 695

Syphilis und syphilisähnliche Erkrankungen des Mundes für Aerzte, Zahnärzte und Studirende. Von Prof. Dr. F. Zinsser..... 695

Psychotherapy, including the History of the Use of Mental Influence, Directly and Indirectly, in Healing, and the Principles for the Application of Energies derived from the Mind to the Treatment of Disease. By James J. Walsh, M.D., Ph.D. 695

Lehrbuch der Augenheilkunde in der Form klinischer Besprechungen. By Dr. Paul Romer 696

Mind and its Disorders. A Text-book for Students and Practitioners. By W. H. B. Stoddart, M. D. Lond., F.R.C.P. Lond. Second edition..... 696

Veterinary Toxicology. By G. D. Lander, D.Sc., F.I.C... 696

The Care of the Body. By R. S. Woodworth..... 697

Guide to the Medical Schools and Teaching of Paris 697

NEW INVENTIONS.

A Portable Radiator for Blood Cultivations.—(*Illustrated*)... 697

LEADING ARTICLES.

THE POSITION AT THE ROYAL NATIONAL HOSPITAL FOR CONSUMPTION FOR IRELAND.. 698

THE PROBLEM OF MEDICAL PRACTICE IN INDIA..... 699

THE AMBULANCE SUPPLY OF LONDON..... 700

ANNOTATIONS.

The Dominant Nuisance of Modern Civilisation..... 701

The Deaths of the Kings of England..... 701

Ovarian Inflammation Complicating Epidemic Parotitis 702

February at Home and Abroad 702

The Endowment of Research... 703

The "Parish Doctor" in Spain 703

Demineralisation in Hydrotherapeutics 703

Dr. William Beaumont..... 704

Inclusion Bodies in Scarlet Fever..... 704

Treatment of Burns by the Application of Alcohol..... 705

The Historical Medical Exhibition..... 705

Cultivation of the Virus of Poliomyelitis..... 705

Fatal Air Embolism Due to Attempts to Induce Abortion 706

The Dutch Ambulance at the Balkan War..... 706

PUBLIC HEALTH.

Reports of School Medical Officers..... 711

VITAL STATISTICS:

Health of English Towns..... 712

Health of Scotch Towns 713

Health of Irish Towns 713

SPECIAL ARTICLES.

The Medical Profession in India..... 707

Royal Medical Benevolent Fund..... 709

Medico-Psychological Association of Great Britain and Ireland..... 710

The Services..... 713

Medical Practice under the Insurance Act. I.—The Struggle at Southampton.—(*To be continued*)..... 721

Liverpool 722

Ireland..... 722

Paris..... 723

Berlin..... 724

Notes from South Africa..... 725

CORRESPONDENCE.

The Panama Canal and Maritime Sanitation (Dr. E. W. Hope, Mr. W. F. Dearden, Dr. Wm. Robertson, Dr. R. E. Lauder, Dr. J. Howard-Jones) 715

Appendicitis: a Plea for Immediate Operation (Mr. Edmund Owen)..... 717

Gastro-enterostomy in Perforating Ulcer (Sir Berkeley Moynihan)..... 717

The After-effects of Gastro-enterostomy (Mr. H. M. W. Gray)..... 718

Physical Characteristics of Migrants to the United States (Mr. Wm. Rushton)..... 718

The Abdomino-Perineal Operation for Rectal Cancer (Mr. P. Lockhart Mummery)..... 719

Suprarenal Extract in Graves's Disease (Dr. C. E. H. Warren) 719

A Point in Examining Urine (Fleet-Surg. W. E. Home, R.N.) 719

A Disclaimer (Dr. J. Campbell McClure and others)..... 719

The Relations of Operator and Anæsthetist..... 719

The Medical Profession and the National Insurance Act (Dr. George Crichton)..... 720

The National Medical Union (Mr. G. A. Wright and others) 720

Old Age and Recuperative Power (Dr. F. Orton) 732

A Question in Lunacy Certification..... 733

OBITUARY.

Philip Hair, M.D.Edin., Physician to the Carlisle Dispensary 726

THE NATIONAL INSURANCE ACT.

The Working of the Act..... 726

Administration of Sanatorium Benefit..... 726

A Committee on Drugs..... 727

Middlesex Insurance Committee 727

A Business Insurance against Sickness 727

MEDICAL NEWS.

Royal Sanitary Institute..... 684

Devon and Exeter Dental Hospital..... 700

Royal Dental Hospital 708

London Hospital Medical College..... 725

The Mount Vernon Hospital for Consumption..... 728

University of Cambridge..... 728

University of Oxford..... 728

University of Sheffield..... 728

Royal Sussex County Hospital 728

Central Midwives Board..... 729

Medical Graduates' College and Polyclinic..... 729

The Hunterian Society..... 729

Health of Paignton (Devon): Unvaccinated Children..... 729

Dawlish (Devon) Cottage Hospital 729

Samaritan Free Hospital for Women..... 729

Tuberculosis Treatment in Middlesex..... 729

Books, &c., received 729

Appointments 730

Vacancies 731

New Addresses 732

Births, Marriages, and Deaths 732

Notes, Short Comments, and Answers to Correspondents... 732

Medical Diary 733

FOR INDEX TO ADVERTISEMENTS SEE PAGES 2 & 4.

INDEX

MEDICAL AND OTHER BOOKS AND PUBLICATIONS

PAGE

ADLARD & SON:—
Penwick .... Indications for Widely Resecting the Bladder Walls ..... Cover 1

APPLETON & CO.:—
Brewer ..... Surgical Diagnosis 5
Campbell & Kerr ..... Surgical Diseases of Children 5
Gardner .... Gynecology 5
Guiteras .... Urology 5
Hamman & Wolman .. Tuberculin 5
Hiss & Zinsser Bacteriology 5
Holt ..... Diseases of Infancy .. 5
McCurdy .... Oral Surgery 5
Osler, Sir W. Practice of Medicine .. 5
Rachford .... Diseases of Children .. 5
Therapeusis of Internal Diseases 5
Walsh ..... Psychotherapy 5
Williams.... Obstetrics 5

ARNOLD:—
Sibley ..... Diseases of Skin. Cover 1

BAILLIERE, TINDALL & COX:—
Knox..... Military Sanitation and Hygiene ..... Cover 1
Mummery .. Sigmoidoscope .. Cover 1
Rose & Carless.... Surgery ..... Cover 1
Thorne..... Nauheim Treatment of Diseases of the Heart Cover 1
Walker .... Food Inspector's Encyclopædia ..... Cover 1

CASSELL & CO.:—
Morris Sir M. .... Diseases o the Skin .. 8

CHURCHILL, J. & A.:—
Bailey & Miller .... Embryology 3
Berry & Legg..... Hare Lip and Cleft Palate 3

CHURCHILL—(Continued)
Birnbaum .. Malformations &c..... 3
Clouston .... Mental Diseases 3
Cripps .... Ovariotomy &c 3
Cushny ..... Pharmacology, &c.. 3
Penwick .... Cancer and Tumours Cover 1
" .... Ulcer and its Consequences .... Cover 1
Penwick .... The Value of Radiography ..... Cover 1
Firth..... Hygiene 3
Haig ..... Uric Acid in the Clinic. 3
" ..... Uric Acid and Disease.. 3
" ..... Uric Acid: An Epitome 3
" ..... Diet and Food 3
Jellett ..... Midwifery 3
Lucas ..... Practical Pharmacy.... 3
" ..... Dispensing 3
" ..... Prescriptions 3
" ..... Receipts 3
Minot ..... Embryology 3
Spencer & Gask ..... Surgery 3
Thorne, Bezly..... Schott Nauheim Treatment, &c., of the Heart 8

FROWDE:—
Herkart .... On Bronchial Asthma, &c..... Cover 1

FROWDE AND HODDER & STOUGHTON:—
Lockwood .. Aseptic Surgery..... 8
" .. Clinical Surgery 8

GLAISHER:—
Herschell .. Chronic Affections of the Stomach .. Cover 1
West ..... Granular Kidney, &c.. 8

GRIFFIN & CO.:—
Brend ..... Medical Jurisprudence 6
Donald..... Midwifery 6
Mann ..... Forensic Medicine, &c.. 6
Phillips .... Diseases of Women .. 6

LEWIS:—
Penwick .... Disorders of Digestion in Childhood. Cover 1
" .... Dyspepsia of Phthisis Cover 1
Martindale & Westcott .. Extra Pharmacopœia.. 6

LONGMANS, GREEN & CO.:—
Syphilis..... Cover 1

MACLEHOSE & SONS (Glasgow):—
Fraser ..... Manual of Immunity Cover 1

MACMILLAN & CO.:—
Ballance .... Cerebral Decompression in Ordinary Practice.. 8
Lockwood .. Appendicitis 8
Tubby ..... Deformities .... Cover 1

MEDICAL PUBLISHING CO.:—
Lane ..... Operative Treatment of Fractures 9
" ..... Cleft Palate and Hare Lip 9

METHUEN & CO.:—
Cavanagh .. The Care of the Body .. 8
Childe ..... Control of a Scourge .. 8
Clouston .... The Hygiene of Mind .. 8
Drink Problem 8
Gorst, Sir J.E. Children of the Nation 8
Macfie ..... Air and Health 8
Newman .... Infant Mortality 8
Newsholme.. Prevention of Tuberculosis 8
Oliver, Sir T. Diseases of Occupation 8
Sainsbury .. Drugs, &c. 8
Schofield .... Functional Nerve Disease 8

MURRAY:—
Kingsley .... Comparative Anatomy of Vertebrates..... 6
Soddy ..... The Interpretation of Radium 6
Thomson.... Heredity 6

WISBET & CO.:—
Lane ..... Treatment of Chronic Constipation 9

OPHTHALMOSCOPE PRESS:—
Stephenson.. Eye-Strain..... Cover 1

SCIENTIFIC PRESS:—
Sandberg & Tudor .... Isotonic Sea Water Injections 8
Stephenson.. Ophthalmic Nursing Cover 1

UNIVERSITY OF LONDON PRESS:
Bidwell .... Minor Surgery 8
Evan's ..... Diseases of the Skin .. 8
Marshall.... Diseases of the Eyes .. 8
Mortimer.... Anæsthesia, &c..... 8
Stevens .... Diseases of Women .. 8
Turner, &c.. Treatment after Operation 8
Whipham .. Medical Diseases of Children 8

WRIGHT & SONS (Bristol):—
Mummery .. Diseases of the Colon Cover 1
Smith ..... Lateral Spinal Curvature, &c. ..... Cover 1

MEDICAL LIBRARIES, &c.:—
Baker, Birmingham—Books..... 9
Bebnke—Stammering 8
Glaisher—Book bargains 9
Kelley—Stammering 8
Lewis's Medical and Scientific Circulating Library 7
Matthews Bros.—
Wood's Application of Trusses 9
Pharmaceutical Press 7
Squire & Sons—
Squire's Companion 33
" London Hospitals..... 33

OFFICIAL AND GENERAL ANNOUNCEMENTS

APPOINTMENTS VACANT:—
Reguley Sanatorium for Tuberculosis 74
Beckett Hospital and Dispensary, Barnsley 75
Bedford County Hospital 75
Belgrave Hos. for Children, Clapham 74
Berkshire Education Committee 71
Birkenhead Borough Hospital..... 72
Birkenhead Union Infirmary 72
Birmingham and Midland Eye Hos.... 70
Box 359, Fleet-street..... 76
Brecon and Radnor Asylum, Talgarth 70
Bridgwater Hospital 74
Bristol Eye Hospital 75
Bristol General Hospital 72
Bristol Royal Infirmary 75
Cambridge County Asylum 72
Canterbury Borough Asylum 75
Central London School District 74
Central London Throat and Ear Hos. 77
Chelsea Infirmary 76
Corporation of Birmingham City Hos. 72
Coton Hill Mental Hospital, Stafford. 75
County Asylum, Whittingham 72
County Borough of Brighton 74
County Council of Middlesex 74
County Council of West Sussex 72
Devonshire Hospital, Buxton 70
Dundee Royal Infirmary 72
East London Municipality (South Africa) 71
Egyptian Government School of Medicine, Cairo 70
Essex County Hospital, Colchester .. 71
Foundation of St. Olave's and St. Saviour's Grammar School 75
Great Northern Central Hospital 74
Hampstead General and North-West London Hospital..... 71
Harley Institute School of Massage .. 76
Hereford County and City Asylum .. 71
Huddersfield Royal Infirmary 76
Hulme Dispensary, Manchester 70
Ingham Infirmary and South Shields Dispensary 70
Jessop Hospital for Women 76
Kensington and Fulham General Hos. 76
Kent and Canterbury Hospital 73
Kettering and District General Hos. 76
Lancashire County Asylum, Winwick 74
Liverpool Stanley Hospital 71
Londonderry Federation of Benefit Societies 71
Macclesfield General Infirmary 73
Manchester Children's Hosp., Pendlebury 72
Manchester Royal Eye Hospital 70
Mildmay Mission Hospital 70
Miller General Hos. for S.E. London. 74
North Devon Infirmary, Barnstaple.. 76
North Riding Infirmary, Middlesbrough..... 76
Nottingham General Dispensary 76
Paris British Hospital 76
Parish of St. Leonard, Shoreditch.... 71
Preston Royal Infirmary 76
Rotherhithe Urban District Council 76
Rochdale Infirmary 76
Rotherham Hospital 76
Royal Eye Hospital, Gray's Inn-road 71
Royal Hospital for Diseases of Chest . 74
Royal Infirmary, Sheffield..... 75
Royal London Ophthalmic Hospital .. 76
Royal Naval Medical Service 76
Royal Sea Bathing Hospital, Margate 75
Royal South Hants and Southampton Hospital 76

APPOINTMENTS—(Continued).
Royal Surrey County Hospital, Guildford 70
St. Bartholomew's Hospital 75
Saint George's Union Infirmary..... 75
St. Paul's Hospital for Skin, &c., Diseases, Red Lion-square..... 75
Salford Royal Hospital 75
Salop Infirmary, Shrewsbury 71
Scarborough Hospital and Dispensary 76
Sheffield Royal Hospital..... 70
Sheffield Union Hospital..... 75
Somerset and Bath Asylum, Cotford.. 72
Surrey Education Committee 75
Tiverton Hospital, Devon 75
Tunbridge Wells General Hospital .. 74
Walsall and District Hospital 74
Wandsworth Union Infirmary..... 72
Warneford, Leamington, &c., Hosp.. 70
Warrington Infirmary and Dispensary 71
West Riding of Yorkshire 71
Whitechapel Union 71
Wolverhampton and Staffordshire General Hospital 71

ASSISTANCIES, MEDICAL..... 75

ASYLUMS, HOMES, &c.—
Ashwood House, Kingswinford 63
Association of Medical Men Receiving Resident Patients 69
Barnsley Hall, Bromsgrove 63
Barnwood House Hospital..... 64
Bishopstone House, Bedford..... 63
Box 55, Cheapside 69
Brunton House, Lancaster..... 69
Buntingford House Retreat, Buntingford 66
Cantrell House, Peckham-road..... 63
Capel Lodge Retreat, Folkestone 67
Cheadle Royal 64
Clarence Lodge, Clapham-park 63
Coltharst House, Warford..... 62
Coppice, The, Nottingham..... 64
Cupola Nursing Home, Hayling Island 70
Dadson Nursing Home 67
Dairymple House, Richmansworth .. 67
David Lewis Colony, Alderley Edge.. 63
Dr. E. Rosenberg Sanatorium..... 69
Farnham House, Dublin 66
Ghyllwoods 67
Grove House, Church Stretton 64
Grove, The, Catton, Norwich 64
Haydock Lodge, Newton-le-Willows.. 63
Hendon Grove, Hendon 62
Home for Epileptics, Maghull 62
Inverault Lodge Sanatorium, Cononbridge 67
K., Oxford-street 69
Kingsdown House, Box 63
Larkin, Grove Park 69
London Fever Hospital 64
Malling Place, Kent 64
Malvern Hydropathic 67
Manna Mead, Blackheath 69
Maryville, Dublin 66
Melbourne House, Leicester 67
Meyrick, Brighton..... 70
Micklefield Hall, Co. Durham 63
Moat House, Tamworth 64
Mount Pleasant, Wanstead 70
Mount Vernon Sanatorium, Northwood 69
Newmains Retreat, Lanarkshire 67
New Saughton Hall, Polton, Midlothian 65

ASYLUMS—(Contin. ed.)
Nordrach-on-Dee, Banchory 69
Northumberland House, Finsbury pk. 65
Northwoods House, Winterbourne .. 66
Norwood Sanatorium, Ltd. 66
No 359, L.O., Strand..... 69
Oaea Island, Hebrides 65
Oster, Dr., Ospedaletti..... 69
Otto House, West Kensington..... 65
Peckham House 66
Penclyffyn Hall Sanatorium 64
Pinewood Sanatorium..... 68
Plympton House, South Devon 64
Portsmouth Corporation Mental Hos. 65
Rosebery Sanatorium, Northallerton.. 62
St. Andrew's Hospital, Northampton. 64
St. George's Retreat, Burgess Hill .. 65
St. Luke's Hospital for Mental Diseases 65
Springfield House Private Asylum, Bedford 64
Stocker, Craven-street..... 70
Stretton House, Church Stretton 64
The Grange, Rotherham 64
Vale of Clwyd Sanatorium..... 62
Warneford Asylum, Oxford 63
White Hall, South Norwood Hill 63
Wye House, Buxton 64
Yarrow Convalescent Home, Broadstairs 66

COMPANIONS:—
No. 243, L.O., Strand..... 77

FINANCIAL, &c.—
Equitable Reversionary Interest Soc. 60

HEALTH RESORTS, BATHS, &c.:—
Aix-la-Chapelle 62
Arosa 62
Bad-Nauheim 60
Cheltenham Spa 60
Clifton Hydro, Ilfracombe 67
Smedley's Matlock 67
Woodhall Spa Baths, &c. 60

HOTELS:—
Hotel Windsor 68
Meyer's Park Hotel 60
White Hart Hotel, Margate 61

HOUSE & ESTATE AGENTS:—
Bedford & Co., Wigmore-street 77
Caretaker, Westbourne grove..... 77
Clayton & Co., West Worthing 77
Curtis, Paignton..... 77
Dickinson, Cruickshank & Co., Ramsey 77
Elliott, Son & Boyton, Vere-street .. 77
Ley Clark, Wimpole-street 77
No. 237, L.O., Strand..... 77
Pilkington, Kenyott..... 77
Richards, Birmingham 77

LIFE & FIRE ASSURANCES:—
General Life Assurance Co. 60
National Provident Institution 60
Prudential 60
Scottish Widows' Fund 13

MASSAGE:—
Gilbert, Beaumont-street 76
Harley Institute school of Swedish Massage 60
London school of Massage 60

MEDICAL ACCOUNTANTS, &c.—
Turner 76

MEDICAL AGENTS:—
Blundell & Rigby 77
Fieldhall, Limited 79
Manchester Clerical, &c., Association 78
Medical Agency 80
Needes, Herbert 78
Needes, J. C. 80
Peacock & Hadley 78
Scholastic, Clerical, &c., Assoc. 81
Turner 79

MEDICAL SCHOOLS:—
(London.)
London School of Clinical Medicine .. 58
West London Post-Graduate College.. 58
(Provincial.)
School of Medicine of the Royal Colleges, Edinburgh 78

NURSING INSTITUTES:—
Army and Navy Male Nurses Co-operation 60
General Nursing Association 61
Hospital for Sick Children, Great Ormond-street..... 60
Leeds Trained Nurses' Institution.... 61
London Nurses' Association 61
Male Nurses Temperance Co-operation 61
Mental Nurses Co-operation..... 60
National Hospital Male Nurses' Assoc. 60
New Mental Nurses Co-operation .. 61
Nurses' Co-operation, Portland-place. 61
St. Bartholomew's Hospital Nurses' Institution..... 60
St. John's House 60
St. Luke's Hospital, E.C. 61
Temperance Association of Male Nurses, Ltd. 62
Temperance Male Nurses Co-operation 62
Temperance Male and Female Nurses Co-operation..... 61
The Retreat, York 61

OFFICIAL NOTICES:—
City of London Lying-in Hospital 59
Edinburgh Post-Graduate Courses in Medicine..... 59
Imperial College of Science and Technology 59
Medical Graduates' College, &c..... 58
Queen Charlotte's Lying-in Hospital 59
Royal College of Surgeons of England 59
Royal Society of Medicine ..... Cover 1
Royal Surgical Aid Society 59
Throat Hospital, Golden-square 59
University of Cambridge 59
University of London 58, 59
University of Manchester..... 59
West End Hospital 59
West End Hospital for Diseases of Nervous System 59

PARTNERSHIPS & PRACTICES 8

RAILWAY & STEAMSHIP CO.'S:—
New Zealand Shipping Co. 60

SCHOOLS, PREPARATORY, &c.:—
Rossett House Boarding and Day School 59

TUTORS & LECTURERS:—
Acton 60
Med. Cortes. Coll. 60
Med. Graduates' College..... 60
Peel-whips .. 60
No. 107, L.O. .. 60
Schnusie 6
Weymouth. 58, 59

For Index to Trade and Miscellaneous Advertisements see page 4.

Hunterian Lecture

ON

PERITONEAL ADHESIONS

(AN EXPERIMENTAL STUDY).*

Delivered before the Royal College of Surgeons of England on Feb. 10th, 1913.

BY JOSEPH E. ADAMS, M.B., M.S. LOND., F.R.C.S. ENG.,

SENIOR ASSISTANT SURGEON, EAST LONDON HOSPITAL FOR CHILDREN; DEMONSTRATOR OF ANATOMY, ST. THOMAS'S HOSPITAL MEDICAL SCHOOL.

MR. PRESIDENT, FELLOWS AND MEMBERS OF THE COLLEGE,—Whilst thanking you for the high honour which you have conferred upon me I feel that I must at the outset apologise for the quality of the work which I have to submit to your indulgent consideration, the only excuse being the complexity and difficulty of the subject in hand. Concerning the importance of adhesions within the peritoneal cavity both to the surgeon and the patient there can be no question, and in the present lecture I shall endeavour to summarise the results of a considerable number of experiments performed on guinea-pigs and rabbits with a view to ascertaining the causation of peritoneal adhesions, their histology, their permanence, and, to some extent, their prevention and cure. It has long been recognised that foreign bodies placed within the peritoneal cavity rapidly become surrounded by inflammatory tissue and ultimately become firmly adherent to the viscera or abdominal wall where these are clothed by peritoneum, and this method is admirably suited for the study of experimental adhesions. Such foreign bodies may be sterile or infected; in either case inflammation is set up and adhesions result, and the production of adhesions in this way is often relied upon for the success of surgical procedures. One commonly speaks of "aseptic" abdominal surgery, and as a clinical term this is permissible, but it must be remembered that pathology demands a higher standard of perfection, and the technique of the operation and its results must be submitted to cultural tests; only when these are negative is it justifiable to speak of an aseptic or, better, sterile wound. The presence of unsuspected organisms accounts for many of the misfortunes of abdominal surgery, and their relation to the formation of peritoneal adhesions is a question which has received too little attention. The bactericidal power of the intact peritoneum is undeniable, and yet a comparatively slight infection may be enough to ruin the perfect smoothness of endothelial continuity. It is common to speak of "protective" adhesions which wall off infected areas of the peritoneum from the general cavity, but, unfortunately, these may eventually lead to intestinal obstruction and prove disastrous rather than beneficial.

THE NATURE OF PERITONEAL ADHESIONS.

The investigation of this problem is essentially the study of inflammation within the peritoneal cavity, and, if we accept the definition of Grawitz, these adhesions are the product of "the reaction of irritated and damaged tissues which still retain their vitality." The tissues in question are the endothelial, subendothelial, and muscular layers of the viscera, the omentum and the structures of the abdominal wall—all vascular areas, and all capable of considerable cellular proliferation provided their cell nuclei are not destroyed.

Peritoneal adhesions may be infective or non-infective, and in each case the newly formed tissue may be fibrinous (acute inflammatory exudate) or fibrous (chronic inflammatory exudate). Adhesion by fibrinous exudate is perhaps better termed "peritoneal agglutination." The endothelium of the peritoneal cavity normally gives rise to a fluid exudate, and inflammation here, as elsewhere in the body, causes this exudate to be abnormally rich in proteids. According to Adami,[1] the deposit of fibrin in peritoneal exudation is strictly comparable to the formation of thrombi inside blood-vessels, and it occurs only when the endothelium has undergone destruction and the roughened subendothelial tissues are exposed. Other observers have found fibrinous exudate lying upon a continuous layer of endothelial cells as the result of irritation or infection, and Buxton and Torrey[2] found that almost immediately after the injection of inert particles into the peritoneal cavity of guinea-pigs a deposit of fibrin appeared on the surface of the omentum, and in this the particles and the phagocytic cells of the cavity became entangled. My own observations coincide with this view. Fibrin deposited on peritoneal surfaces may be dissolved as the result of bacterial activity, it may be absorbed by the cells and fluids of the body, and, lastly, it may form a framework on which new connective tissue is laid down. How often this last event occurs it is difficult to say, but it is probably rare except when foreign bodies are introduced into the peritoneal cavity.

Fibrous adhesions can only be formed by the activity of fibroblasts, and the origin of fibroblasts in the peritoneal cavity is a question as yet unsettled. It is generally agreed that they are derived from pre-existing connective tissue cells, but in practice it is impossible to differentiate between young hyaline cells of a mononuclear type, endothelial cells, and newly grown connective tissue cells. It seems probable, however, that there must be destruction of at least one serous surface for the production of fibrous adhesions. The researches of Graser[3] are of interest in this connexion, and according to his views of the agglutination of serous surfaces the peritoneal endothelial cells contribute to the formation of fibrin which glues the surfaces together; in this process the cells die and make way for the new tissue formed of blood-vessels and cells from the subendothelial layers. By using Weigert's fibrin stain he was able to trace fibrin formation even as far as the nuclei of the endothelial cells.

NON-INFECTIVE ADHESIONS.

To what extent non-infective adhesions are met with in clinical surgery it is impossible to say without bacteriological investigation, but experimentally they are readily formed around sterile foreign bodies introduced into the peritoneal cavity, and when these are removed adhesions almost invariably re-form. The technique of my operations has been as follows: the hair has been removed with a depilatory paste (barium sulphide and zinc oxide in equal parts), kindly prepared for me by Mr. Jennings, the pharmaceutist to St. Thomas's Hospital; the skin has next been painted with the tincture of iodine twice, and the abdomen opened forthwith; closure of the abdominal cavity has been effected with two continuous catgut sutures, one for the peritoneum and muscles, the other for the skin; iodine has been poured on after closure of the wound, and no dressings have been applied. The wound has almost invariably healed by first intention. In all cases the results have been controlled bacteriologically; the necessity for this is made obvious by the knowledge that an apparently aseptic and healthy peritoneum may sometimes yield positive cultural tests if a portion of the omentum be cut off and dropped into a broth tube under sterile conditions. Dudgeon and Sargent[4] obtained such results in the case of human beings, and investigation of animals has confirmed this observation. The organism grown in all cases was a white staphylococcus.

THE INTRODUCTION OF STERILE COTTON-WOOL SPONGES.

Some authorities state that sterile gauze placed in the peritoneal cavity becomes firmly adherent within a few hours, but such is not my experience where small surgical sponges were used and the abdomen was closed. This is explained by the fact that such a sponge is free to move, and its position is being constantly altered by the peristalsis of the intestine, so that it was very rare to find the sponge occupying the situation in which it was originally placed. Another determining factor is the position of the sponge in relation to the omentum, but this will be considered later. In those cases where gauze is fixed in position, as in a drainage wound, fairly firm adhesions do form within a few hours, and they form more quickly in an infected than in a sterile wound. Sterilised sponges were placed in the peritoneal cavity of guinea-pigs and left in position for periods varying from one to six days. In every instance the sponge was found adherent to the omentum, not to the intestine, and the density of the adhesions was directly proportional to the length of the sponge's stay in

* These researches have been carried out in the Pathological Department of St. Thomas's Hospital.

the abdomen; after one day it was easily detached from the omentum; after six days the sponge was embedded in the omentum. In every case the sponge was saturated with blood-stained fluid, and from this films were made by gently squeezing the sponge, and these were treated with Leishman's stain. The cells present were red blood corpuscles, finely granular leucocytes, lymphocytes, and endothelial cells, and whilst red cells were always numerous the films exhibited a progressive proportional increase in both lymphocytes and endothelial cells.

Further experiments were carried out on rabbits, and a number of sterile sponges were placed in different parts of the peritoneal cavity, being left *in situ* for varying periods. In a very large proportion of these cases the sponge was taken up by the omentum and was not adherent to the intestine, but where it had escaped the embrace of the omentum firm adhesions were found between sponge and bowel, or between sponge and solid organs. Pressure and peristaltic activity both played a part in the ultimate result, for in the case of sponges placed between the liver and

FIG. 1.

Section of sterile cotton wool sponge adherent to the upper surface of liver after three days. It shows a well-marked palisade of fibroblasts on surface of liver, and masses of fibrin surrounding cotton fibres with entangled finely granular leucocytes and some endothelial cells.

the diaphragm the latter remained unattached, whilst the sponge was found partially embedded in the liver substance, so that only its upper surface lay exposed. Sponges which were placed in the pelvis were sometimes adherent only by that surface which was the lower in the customary attitude of the animal. If adhesions were present between intestine and sponge it was very rarely the small bowel which was implicated, and a reasonable explanation of this is afforded by the greater peristaltic activity of the small intestine. Both experimental and clinical observers agree that active peristalsis is antagonistic to the formation of peritoneal adhesions.

In one experiment a sterile sponge was left in position for one month, and it had then become adherent to both small and large intestine. Microscopy revealed healthy gut with fibrosis of its serous coat, and a broad band of fibrous tissue passed between the sponge and the colon. Cultures from the sponge were sterile. Microscopical examination of these non-infective adhesions showed evidence of well-formed fibrous tissue after the third day, and a specimen obtained 72 hours after a sponge had been placed between the diaphragm and the liver showed a horizontal palisade of fibroblasts over the congested liver capsule, and, on the distal side, masses of fibrin surrounding cotton fibres, with numbers of finely granular leucocytes and some endothelial cells. (Fig. 1.)

THE INTRODUCTION OF RUBBER DRAINAGE-TUBES.

The value of the drainage-tube in peritoneal wounds is at the present time being called in question, and a small number of experiments were carried out to ascertain what changes were induced by a sterile tube in the peritoneum. This does not accurately represent their clinical value, but with experimental animals it is impossible to proceed in the same manner as one does with human beings. The tubes were fixed in position and buried beneath the sutured abdominal wall; lateral openings were closed in a very short time, and in 24 hours the whole of the tube was plastered over with newly formed tissue consisting of fibrin containing numbers of red blood corpuscles and degenerated finely granular leucocytes. This tends to show that tube-drainage of the peritoneum, unless there is an abscess cavity with well-defined walls, is of very limited value, and my impression is that in septic cases the presence of a tube may, by its pressure, favour the transmigration of organisms from the interior of the gut to the infected area; and this view is supported by the clinical observation that there is often very little discharge until the third or fourth day after operation, when by the action of organisms, leucocytes, and the body fluids liquefaction of the inflammatory tissue will have taken place. It is well known that if cultures be taken from drainage-tubes which have remained in abdominal wounds for some days the bacillus proteus and bacillus pyocyaneus are often present, even in cases where they were absent at the operation, and these organisms are common inhabitants of the intestinal canal.

THE RELATION OF HÆMORRHAGE TO PERITONEAL ADHESIONS.

The opinion has been stated that to leave any blood in the peritoneal cavity at the end of an operation is to invite the production of post-operative adhesions, but there seems to be very little evidence in favour of this view unless endothelial surfaces are grossl injured at the same operation. It is well known that in the immunisation of animals intra-peritoneal injection of large quantities of red cells, whether hetero-, iso-, or autogenous, is not followed by the formation of adhesions, and there is ample clinical and experimental evidence that the peritoneum is capable of absorbing large quantities of blood provided that the endothelial covering of the viscera is intact. Experimenting on rabbits intra-peritoneal hæmorrhage has been caused by puncture of the vena cava, by dividing arteries in the omentum, and by allowing vessels of the abdominal wall to bleed into the peritoneal cavity. The animals have been killed from two to ten days later, and, whilst the coils of intestine have been sticky and fibrin has been found up to the fifth or sixth day, a longer period than this has shown no evidence of adventitious fibrous tissue. In cases where there is a loss of peritoneal surface together with extravasated blood in the abdominal cavity it is possible that the fibrin of the blood may act to some extent as a scaffold on which fibrous adhesions are built up, but in a number of cases where the serous coat of the stomach has been scraped away until free bleeding occurred there has been no evidence that small quantities of blood have this influence. It is possible that large quantities may do so, but another factor which then comes into play is the question of infection of the extravasated blood.

THE EXPERIMENTAL PRODUCTION OF NON-INFECTIVE ADHESIONS.

In the course of this investigation many methods have been utilised to induce fibrosis, but only one has proved invariably successful, and that is the introduction of sterile foreign bodies. After the removal of sponges adhesions have practically always been found between the omentum and bowel, or between intestinal coils only; to ensure the formation of the latter the omentum has been removed at the operation for insertion of the sponge. Other methods employed have been scarification of visceral surfaces and of the parietal peritoneum, the injection of chemical irritants, and of emulsions of sand and chalk. In the inoculation experiments the omentum always played an important part in the changes which occurred, and the results of intraperitoneal injection of 4 c.c. of a 15 per cent.

sterilised emulsion of silver sand in guinea-pigs is of interest. Nine inoculations were performed on one day, and the peritoneum was examined at periods varying from 3 days to 14 weeks. In every case there was a granulomatous mass on the parietal peritoneum containing particles of sand close to the injection puncture, and these areas, a quarter of an inch wide and raised slightly above the surrounding surface, were often multiple. In seven of the animals the omentum was lightly adherent to the granulomata, and the only two in which it was free were examined after 37 and 95 days respectively. In the last case it appeared that the peritoneum had recovered from the irritation, since there was scarring, but the granulomata were very small. In six instances a portion of the omentum was cut off at the post mortem and dropped into a broth tube; five of these were sterile; the sixth gave a pure culture of a staphylococcus albus, and in this animal the omentum was found plastered over the surface of the liver. In two cases definite fine bands of fibrous tissue were present in addition to omental adhesions. Similar experiments were carried out on rabbits, the sand emulsion being introduced by open operation. After 11 days the parietal peritoneum was studded with nodules of a grey-yellow colour, raised about a quarter of an inch above the surface, and similar nodules with pointed tags were present on the large intestine; the small bowel was entirely free from these granulomata. After 20 days it was found that definite fibrous bands passed from the colon to the parietal peritoneum. Microscopy of the inflammatory tags found after 11 days revealed connective tissue cells arranged in whorls and surrounded by fibrous tissue; in the central parts of the section giant cells were seen, and between the true fibrous tissue and the connective tissue cells numbers of elongated oval fibroblasts were present. The absence of blood-vessels was striking.

Chemical irritants were found to be much less reliable in the production of adhesions, although they caused marked endothelial proliferation, excess of exudation, and occasionally fibrinous agglutination of the viscera. The effect of scarlet red, which is commonly recognised as a cell proliferant, was absolutely negative as a producer of peritoneal adhesions.

With regard to scarification of serous surfaces an attempt was made in a number of experiments to ascertain whether intact peritoneum readily adheres to raw areas, or whether two raw surfaces are required to ensure the formation of adhesions. It was found, in the first place, that merely rubbing an endothelial surface with sterilised gauze was not to be relied upon to excite such cellular proliferation, and that such irritation could be rapidly recovered from without showing any definite traces of injury or repair. Secondly, linear scarification with the point of a scalpel was often repaired with very little evidence of change. Lastly, that where definite areas of the wall of the stomach or colon were denuded of their peritoneal coat it was almost certain that the omentum would become adherent if the bare area lay within its field of excursion.

THE OMENTUM AND ITS FUNCTIONS.

1. *Its Relation to the Formation of Peritoneal Adhesions.*

The functions of the omentum have for many years been a subject of speculation, but recently this organ has been credited with remarkable and important properties, and this view appears to be justified. The pathologist was perhaps the first to realise its immense value in localising inflammatory lesions within the peritoneal cavity, and surgeons have also learned to respect its integrity and do not now remove it as ruthlessly as in former years. Its power of repelling bacterial invasion has been amply proved by comparing the results of intraperitoneal inoculations with bacterial cultures in the case of animals with or without omenta. Its power of absorption of foreign particles and of bacterial products is also well known. Dunsmoor [6] states that in human beings the omentum is capable of taking up 0·5 per cent. of the body weight of fluids per hour, and that this absorptive power is proportional to the activity of intestinal peristalsis. Buxton and Torrey found that almost immediately after the intraperitoneal injection of inert particles, such as lampblack, in guinea-pigs, there is a deposit of fibrin on the surface of the omentum in which the particles and phagocytic cells of the cavity become entangled, and one hour after the injection the lymphatic channels of the omentum were filled with particles of lampblack, so that these lymphatics must be regarded as second only to those of the diaphragm in their capacity for absorption.

The reaction on the part of the omentum to irritation is also called forth by the existence of raw areas on peritoneal surfaces, and it appears to play an important part in the repair of such surfaces. Its faculty for reaching and protecting these dangerous areas is remarkable, and no better example of this function can be cited than that met with after simple laparotomy. In a large number of cases the omentum, both in the human being and in experimental animals, is found firmly or lightly adherent to the abdominal wall, and my impression after examining a large number of such wounds at very varying periods after the operation is that in nearly all cases where a large gap is left in the parietal peritoneum in the upper abdomen within range of the omentum this organ becomes adherent. In many cases of ordinary closure of the peritoneal cavity where satisfactory apposition is secured omental adhesions are also met with. The questions to be decided are whether such adhesions are accidental, and also whether they serve any useful purpose. With regard to the first point, their occurrence appears to depend largely on the extent of the gap in the peritoneum on the posterior aspect of the wound, and from experience of upper abdominal wounds in man and animals it would seem that such adhesions are almost inevitable where the peritoneum is imperfectly closed by suture. As to the value of these adhesions, it is probable that in many cases they are only temporary and that they represent one stage of an auto-plastic omental graft by which the healing of a peritoneal ulcer is facilitated and hastened. Such adherent omentum is capable of supplying numerous endothelial and connective tissue cells to the bare area, and unless the omentum itself becomes fibrotic the adhesions apparently persist only until such time as the deep aspect of the abdominal wound is healed. This probably accounts for the fact that one finds adhesions of varying density, but this is by no means proportional to the length of time which has elapsed since the operation. A similar process probably takes place in the case of damaged endothelial surfaces of the viscera, and the release of the omentum may be explained by its motility. If these suggestions be correct and the omentum does contribute cells for the healing of these wounds, not the least of its functions must be that of the restoration of peritoneal surfaces.

2. *Movements of the Omentum.*

The powers of the omentum in relation to its protective and reparative properties are to some extent dependent on its motility, and the following investigation was made with a view to discovering the normal range of movement possessed by the omentum in the rabbit. Two lead shot were fixed in its right and left free borders respectively, and the abdomen was closed. Three months later the animal, being in perfect health and taking ordinary food, was placed in a specially designed apparatus enabling one to obtain skiagrams of these shot. The X ray tube was centred over a wooden base with cross wires fixed in it, and on this the animal was secured so as to eliminate movements of the trunk. A plate carrier beneath the base enabled successive photographs to be taken without moving the apparatus or the animal, and plates were exposed every half-hour for a period of six hours. These showed variations both in the relative positions of the shot to one another and also in their relationship to the cross wires, but the range of movement was not great, and it appears to me absolutely certain that the omentum is entirely dependent for its movements on the peristaltic waves of the bowel to which it is attached and that which lies beneath it; further than this, that its movements are slow, and that inflamed or injured areas of peritoneum, though they often arrest the omentum until it becomes adherent at the damaged spot, do not attract it by any special chemiotactic or physical influence.

Detached omentum left free within the peritoneal cavity does sometimes become adherent to the ligatured base of the organ, and in one case a portion of omentum was cut off and sutured to the inferior surface of the diaphragm, and four days later it was found that the stomach was rotated forwards and upwards, covered in front by a broad band of omentum from which a thickened cord ran to the lower end of the anchored omentum, but repetition of these

experiments failed to establish the constancy of these results. One case is of especial interest because at the same operation the serous coat was detached from a portion of the colon and the lower half of the omentum was removed; the omental stump did become adherent to the colon but about one inch from this bare area, which was itself free from all adhesions showing no evidence of inflammatory repair. This animal was killed after only 26 hours, but the result suggests the absence of selective power on the part of the omentum since the bare area was easily within its reach. Frequently the lower two-thirds of the omentum have been detached and left free in the abdomen, but there has been no tendency for it to become adherent to the remainder. Wilkie[7] in a most interesting paper on the "Functions and Surgical Uses of the Omentum" entirely confirms these views, and so also do many other observers.

INFECTIVE ADHESIONS.

My investigations into this part of the subject have been directed to the study of the changes which followed the introduction of cotton-wool sponges inoculated with broth emulsions of agar cultures of such organisms as the staphylococcus aureus and the bacillus coli from the macroscopic, microscopic, and bacteriological aspects. The last is of considerable interest, for it has been already pointed out that aseptic foreign bodies will give negative cultural results, even when they remain for weeks within a healthy peritoneal cavity, but in the case of infected sponges it is by no means certain that a pure infection with one organism will not become a mixed bacterial infection; in fact, it seems probable that such a change will occur. Using at first excessively small doses of the bacillus coli, it was found that adhesions developed more quickly than around aseptic foreign bodies, and the same organism was recovered in pure culture up to three days after the operation. With the staphylococcus aureus the adhesions were less dense, and in a case where one sponge was placed between the diaphragm and the liver, and another in the pelvis, the latter was free from adhesions, whereas the former was partially sunk into the upper surface of the liver. Cultures from the upper sponge were sterile, whilst from the lower an attenuated growth of a white staphylococcus was obtained. This appears to show the bactericidal action of the peritoneum and the superior power of absorption possessed by that covering the diaphragm. In this case only a single platinum loop of a 24-hour broth culture of the organism was used, and the subsequent cultures were taken at the end of three days. Microscopically the adhesions present in these cases showed a fibrinous network with large numbers of finely granular leucocytes, and beneath this a narrow palisade of fibroblasts. When larger doses were employed the changes were correspondingly more extensive and more rapid, and several times starting with a sponge infected with a staphylococcus aureus the second bacteriological investigation yielded a growth of a bacillus as well as a coccus, and the added organism was either the bacillus coli or bacillus proteus. The explanation of this is that by infection and pressure the inoculated sponge had caused damage to the wall of the intestine, and this no longer formed an efficient barrier against infection from the lumen of the gut. A specimen, of which a lantern slide will be shown, exhibits the changes due to the presence of a sponge infected with 0·25 c.c. of a broth emulsion of a 24-hour agar culture of the staphylococcus aureus; to the naked eye the sponge was seen to be surrounded by a thin layer of creamy white pus, and outside this there were coils of firmly adherent intestine with walls thickened and infiltrated; at one spot only did the mucous membrane show any trace of disease, and here there was an ulcer the size of a pin's head. Microscopically this portion of the intestine showed ulceration proceeding from serous to mucous coats, and the gap was filled up with inflammatory cells. This clearly represents a very early stage of fæcal fistula, although cultures yielded a pure growth of the original organism.

In connexion with infective adhesions the result of applying pure carbolic to the serous coat of the large intestine is of interest. One drop of this chemical irritant was applied on the point of a pair of artery forceps to an area, half an inch in diameter, of the surface of the colon, and also to several smaller spots on both large and small intestine. The serosa became white and lost its polish, but it still moved freely on the subjacent muscle; the omentum was not touched. The abdomen was reopened at the end of a week; the small intestine showed no change, and all traces of the caustic had disappeared. In the case of the large bowel several small areas showed thickening and proliferation of inflammatory origin similar to that seen after scarification with the point of a scalpel. At one spot, corresponding to the larger area of carbolic cauterisation, a very vascular band of omentum was adherent. A portion of this was excised and dropped into a broth tube; a pure growth of the bacillus coli was obtained. The adhesion was not divided until three weeks after the first operation, and the bacillus coli was still present. Microscopically this omental adhesion consisted of whorls of fibrous tissue of considerable density with blood spaces and newly formed vessels. Excision of nearly the whole of this band failed to prevent its forming again, but when the animal was killed two months after the first operation cultures from the re-formed omental band proved to be sterile. In this case it appears probable that the adhesion was largely due to the presence of the colon bacillus, which had passed through the damaged serous coat of the gut, and although the infection gradually died out its ill results remained in the form of permanent fibrous tissue.

Allusion has already been made to the possible secondary infections which may result from the presence of foreign bodies, such as drainage tubes, exerting harmful pressure in infected regions of the peritoneal cavity. As regards the persistence of infective adhesions, clinical experience teaches one that they may disappear with great rapidity, and yet in other cases they may be found years after peritoneal infection. In this connexion it is essential to differentiate clearly between fibrinous and fibrous adhesions, for there is no doubt that the former often appear and disappear in a few days, whereas the latter possess great powers of resistance against the action of bacteria, leucocytes, and the body fluids, and they are met with when the organisms are sufficiently powerful to kill at least a large proportion of the endothelial cells.

THE TREATMENT OF PERITONEAL ADHESIONS.

Having gained some knowledge of the circumstances which govern the formation and the persistence of adhesions within the peritoneal cavity, an endeavour has been made to prevent them, and to cure them when present, and it appears to me that in this matter prevention is not only better, but easier, than cure.

In an excellent paper by Richardson[8] a *résumé* of the methods which have been adopted are given; his list includes:—

1. The use of non-absorbable protective membranes, such as collodion film, sheets of silk or rubber fabric, silver foil, &c.
2. Manual and postural arrangement of the viscera.
3. Stimulation of peristalsis.
4. Specific drugs, such as iodides, and fibrolysin.
5. Normal salt solution in large quantities with the addition of adrenalin to constrict vessels and limit exudation.
6. Introduction of gases. Distension with oxygen just prior to closure of the abdomen.
7. Hot air baths. The induction of intra-abdominal hyperæmia by the local application of hot air baths to the lower part of the trunk.
8. Eschar of the thermo-cautery. Deep cauterisation is said to have some advantages.
9. Lubricants. Olive oil, vaseline oil, liquid lanoline, liquid paraffin, and special fats of animal origin.
10. Non-viable animal membranes, such as Cargile membrane, ox peritoneum, gold-beater's skin, &c.
11. Viable grafts. The omentum.

Richardson concludes by describing a method of covering raw surfaces on the intestinal wall by raising a flap from its adjacent mesentery, pulling it down over the bowel and securing it over the denuded area with a few sutures. In the present investigations only some of these methods have been employed in the treatment of adhesions. In the first place, it is generally recognised that foreign bodies such as rubber fabric or even animal membranes have yielded disappointing clinical results, and therefore these have not been tried. As regards the stimulation of peristalsis to prevent the formation of adhesions, such a course is clearly of value, and rarely have these experimental adhesions involved the small intestine unless the process was due to infection, so that rapidity of peristalsis must be considered to militate

against the formation of adhesions. Clinical experience is in favour of the use of eserine, and many experimental observations confirm this view, and several writers state that beetroot, which in rabbits causes peristaltic activity, has a value in preventing the formation of peritoneal adhesions. With regard to drugs I am at present engaged in investigating the action of fibrolysin on adhesions within the peritoneal cavity, but as yet no definite conclusions have been arrived at. Of the other methods enumerated by Richardson, attention has been directed to lubricants and viable grafts of the omentum, and these methods must be considered in detail.

In the investigation of infective adhesions I have observed on one or two occasions in human beings that secondary hæmorrhage has had a most beneficial effect on the condition of the peritoneum. I have therefore, in rabbits, produced a localised abscess, evacuated its pus, filled the cavity with blood serum from the same animal, and then closed it. This has been followed by good results so far as the peritoneum was concerned, but in all cases there was considerable infection of the abdominal wall, and thus it is difficult to estimate the value of the procedure where one uses experimental animals, but such a method may be worthy of trial in the case of human beings with localised peritoneal suppuration.

THE USE OF LUBRICANTS.

It has been held that such lubricants as sterilised olive oil and liquid paraffin facilitate peristalsis, prevent friction, and serve to separate raw areas during the healing of the damaged peritoneum, and therefore they have been recommended for the prevention of adhesions both in cases where their formation is likely and in those where they have been broken down to prevent their reappearance. Experimentally, however, these fluids have not proved to be of much value. Sterilised olive oil has been used to prevent the formation of adhesions around rubber drainage-tubes and liquid paraffin to obviate recurrence after enterolysis; neither procedure has been successful, for tubes soaked in oil have become more adherent than tubes without oil placed in the same abdomen, and the paraffin has not prevented the re-formation of divided adhesions. A new lubricant has been advocated by Crump, prepared from the omentum and appendices epiploicæ taken from animals a few minutes after death. He has used it in a good many clinical cases where adhesions had to be broken down at the operation, and he records good results, but does not present any operative evidence that these adhesions were especially influenced by the use of his oil. Wilkie[9] used sterilised vaseline oil to prevent adhesions, and experimentally he found cream-cheese-like masses in the abdomen and advised against its use.

OMENTAL GRAFTS.

Ever since the brilliant researches of Nicolas Senn[10] were published in 1888 it has been known that the omentum may be used as a covering for denuded areas of peritoneal surfaces and for the closure of perforations, and, bearing in mind the use which Nature makes of the omentum in this direction, it would appear to be the duty of the surgeon to imitate the natural processes of repair as closely as possible. On many occasions the omentum of the rabbit has been completely detached and left loose in the peritoneal cavity. Invariably it has been found free from adhesions, and usually rolled up into a ball by the peristalsis of the intestine. Microscopical examination has revealed some proliferation of its endothelial covering, together with slight fibrosis, but almost no necrosis of its fatty tissue. If, then, the omentum is capable of existing, deprived of its blood-supply, on the fluids of the peritoneal cavity, it is clear that we have an ideal natural covering for denuded surfaces.

Senn began his omental grafting by using portions which were still attached at their base, but this is open to obvious objections, for the omentum may act as a band and produce intestinal obstruction. He therefore next used portions of omentum completely detached; these he placed in 1 in 2000 corrosive sublimate solution, and then partially dried them between layers of gauze wrung out of the same solution. These grafts were applied to the surface of the intestine in animals and became firmly adherent in from 12 to 18 hours, and freely supplied with blood-vessels in from 18 to 48 hours. A point in his investigations which is of some interest is that he found that if he scarified the wall of the bowel before applying the graft healing was quicker and firmer. His grafts were secured by two or three fine catgut stitches, and in many cases he used omental grafts to encircle the line of an intestinal anastomosis.

FIG. 2.

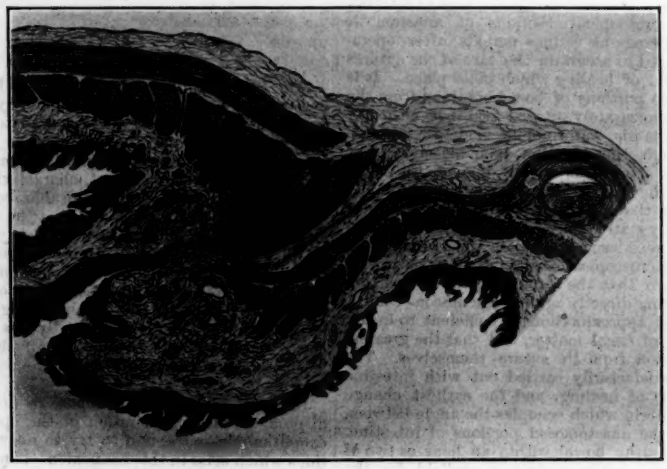


Figure representing the healing of an intestinal anastomosis in man. Operation three weeks before death, which was unconnected with intestinal suture. Anastomosis was perfect on macroscopic examination. The section shows bands of fibrous tissue passing from serous to mucous coats, and the latter has evidently only just healed. Note the excessive inflammatory infiltration in the submucous layers, and the encapsulation of a portion of silk suture in the muscular coat. Two rows of silk suture were used at operation.

Since this date omental grafting has been made use of by many surgeons to reinforce suture lines in the bowel wall and to cover denuded areas, but the results have not been uniformly good, and for this reason some discredit has been thrown upon such grafting. The explanation of such failures is probably to be found in the fact that they have frequently been used in infected areas, and under these circumstances there is no reason why a covering of omentum should prevent adhesions, which are the outcome of inflammatory reaction of the irritated and damaged endothelial or subendothelial surfaces.

It is well known that the operation of hysterectomy is apt to be followed by adhesions between intestine and the stump of the uterus unless the greatest care is taken to unite the peritoneum over the stump, and since this operation does not involve the bowel it is usually free from any infection. This procedure has been selected by me for experimental proof of the value of omental grafting, and the results have been uniformly good, for where no omental covering has been applied to the uterine stump some adhesions have always occurred, but this has been prevented by the application of a detached omental graft. Nearly the whole of the omentum of the rabbit has been utilised for this purpose, and no harm has resulted as regards the blood-supply of the stomach. It is hardly necessary to say that no antiseptics have been used within the peritoneal cavity or in preparation of the graft. In the human being only small portions of omentum would be required for such a purpose.

PERITONEAL ADHESIONS IN THE SERVICE OF SURGERY.

There are certain abdominal operations in which the surgeon welcomes, and even depends upon, the rapid formation of adhesions, and one may quote as examples the

formation of artificial anus, operations for ascites, and intestinal anastomosis. As regards the first, the endothelial surface of the bowel is usually brought up firmly against the edge of the parietal peritoneum and the freshly divided muscles and fascia of the abdominal wall; sufficient irritation and injury result from this to ensure agglutination within a few minutes and firm adhesions within a few hours, and the sutures which are applied suffice to hold the bowel in place in spite of the strain of vomiting and involuntary movements of the patient. A well-known method of operating for ascites due to portal obstruction consists in rubbing the inferior aspect of the diaphragm and the superior surface of the liver with sterilised gauze to induce adhesions between the liver and diaphragm, and thus set up a collateral circulation. Although this often succeeds it appears to be somewhat uncertain, for whereas scarification increases the chance of adhesive union of endothelial surfaces, yet some observers have even rubbed parietal and visceral peritoneum with a tooth-brush and a few days later the surfaces have become smooth and polished, so that to be certain of adhesions a foreign body, such as sterilised gauze, should be left *in situ* between liver and diaphragm until the second or third day, when we know that fibroblasts will have appeared in the inflammatory tissue.

Intestinal anastomosis presents special features of interest, and a series of microscopical sections of anastomotic junctions in human beings at various periods after operation have been examined to ascertain the fate of the sutures and the precise method of healing which takes place. It is well known that if two portions of bowel obtained from the post-mortem room be accurately sutured together, either by axial or lateral anastomosis, water under moderate pressure can be passed through the junction immediately. It is also known that the submucous coat is one of the most important factors in the healing of an anastomotic wound; it is apparently in this tissue that the suture gets its firmest hold. It is commonly stated that in order to obtain satisfactory healing one must secure accurate apposition of the serous surfaces, but microscopical examination of successful anastomoses has shown that the serous coat of one portion of intestine may be lying directly against the mucous coat of the other portion, that approximation is sufficient to insure against extravasation of fæcal matter, and that the greatest risk is that of infection from the sutures themselves. The water test can be satisfactorily carried out with intestine which shows no trace of healing, and the earliest change observed is a plug of fibrin which occupies the angle between the serous coats of the anastomosed portions of intestine. This is present in healthy bowel within an hour or two of the operation, and it appears to form a scaffold for the further changes of endothelial proliferation and fibrosis proceeding from whichever parts of the bowel are actually in apposition. Stitches rapidly disappear into the lumen of the gut, excepting those portions of the Lembert sutures which lie in the muscular coat, and these undergo some degree of encapsulation. Healing of the mucosa is the last change to occur, and this appears to take at least three weeks in most forms of intestinal anastomosis. (Fig. 2.) It would appear that scarification of the serous coats before anastomosis is calculated to promote more rapid and firmer healing than where one relies entirely upon the irritation set up by the presence of sutures and the pressure of approximation for closure of the anastomotic junction. That reinforcement of suture lines with omental grafts is not usually needed in intestinal anastomosis is generally agreed, and an obvious objection to their use lies in the fact that these are infected operations; nevertheless, on many occasions they have proved of value, and occasionally the continuity of the intestinal tube has been secured by wrapping omentum around the suture line, and such a step might reduce the existing high mortality of anastomosis in acute obstruction, a procedure which the surgeon is sometimes compelled to carry out owing to the risks attached to the production of an artificial anus in the small intestine, for the mortality is probably due in a large proportion of cases to the presence of infected sutures.

I should like now to exhibit a few specimens obtained during the course of this research, which illustrate many of the points that I have brought forward.

In conclusion, I have to express my indebtedness to Mr. S. G. Shattock, Mr. Leonard Dudgeon, and Dr. R. C. Wingfield for much help and valuable advice, which has been of the greatest service during these investigations.

Bibliography.—1. Adami: Inflammation, 1907. 2. Buxton and Torrey: Journal of Medical Research, vol. xv., No. 1, July, 1906. 3. Graser: Langenbeck's Archives, 1895. 4. Dudgeon and Sargent: Bacteriology of Peritonitis, 1905. 5. Ibid. 6. Dunsmoor: Journal of Surgery, vol. xxiv., 1909. 7. Wilkie: Brit. Med. Jour., Oct. 28th, 1911. 8. Richardson: Bulletin of the Johns Hopkins Hospital, August, 1911. 9. Wilkie; Surgery, Gynæcology, and Obstetrics, vol. x., p. 126. 10. Senn: Annals of Surgery, vol. vii., 1888.

The Lettsomian Lectures

ON

THE SURGERY OF THE THYROID GLAND,

WITH SPECIAL REFERENCE TO EXOPHTHALMIC GOITRE.

Delivered before the Medical Society of London on Feb. 3rd and 17th and March 3rd, 1913,

BY JAMES BERRY, B.S. LOND., F.R.C.S. ENG.,

SENIOR SURGEON AND LECTURER ON CLINICAL SURGERY, ROYAL FREE HOSPITAL, ETC.

LECTURE II.[1]

Delivered on Feb. 17th.

MR. PRESIDENT AND GENTLEMEN,—In my last lecture I dealt mainly with the morbid anatomy and pathology of exophthalmic goitre. I endeavoured to show, from actual specimens and cases, that the lesions in the thyroid and thymus glands of persons suffering from well-marked forms of the disease were constant, characteristic, and in most, if not in all, cases easily recognisable, both to the naked eye and under the microscope, and that the extent of the morbid change in the gland corresponded fairly accurately with the severity of the symptoms. In other words, it is easy to infer from the symptoms what the condition of the gland must be. Difficulties in the diagnosis occur only in those cases in which the symptoms are few and slight, and in these the changes in the gland are naturally less pronounced and less easily recognisable. At the end of the lecture I alluded briefly to the medicinal and other non-operative methods of treatment.

In the present lecture I propose to devote the time at my disposal to the consideration of the operative treatment of exophthalmic goitre, and to try to answer the difficult questions which arise in this connexion—namely: To what extent is operation justifiable? In which cases, and at what stages of the disease, should it be recommended? What are the benefits we may expect, and the dangers we must avoid? And finally, if we decide on operation, what method shall we employ?

TO WHAT EXTENT IS OPERATION JUSTIFIABLE IN GRAVES'S DISEASE?

It may be within the knowledge of some of you that until the last two or three years I have been, on the whole, an opponent of operative measures for ordinary well-marked cases of Graves's disease. I considered that the risks incurred were too great, and the benefit to be expected too small, to justify such treatment. But the advances in our knowledge of the disease, the experience gained by many bold pioneers in this branch of surgery, and more particularly my own observation of their practice, have led me of recent years to modify to a certain extent the views I formerly held, and to express the belief that if sufficient care be taken in the selection of cases, and of the time and method of operating, much may be done by operation for the alleviation of the symptoms, if not for the actual cure of these patients. Anything like indiscriminate operating for Graves's disease is, in my opinion, strongly to be deprecated. I think I am right in saying that this opinion is shared by those of larger experience than myself with whom I have personally discussed the subject.

Operations upon the very acute and very advanced cases still are, and as far as we can see at present always must be, matters of considerable danger, not to be lightly undertaken.

[1] Lecture I. was published in THE LANCET of March 1st, 1913, p. 583.

By advanced cases I do not mean merely those of long duration, for, as a matter of fact, the cases in which operation can be undertaken with least risk include some in which the disease has been in progress for several years. I refer to the acuteness of the intoxication and the presence of secondary degeneration of viscera, especially of the heart, rather than to the duration of the disease.

Those who have studied in detail the literature of the subject, and more particularly those who have had the opportunity of seeing many cases before and after operative treatment, cannot fail to be struck by two main facts—firstly, the danger of the operation as often performed; and, secondly, the undoubted benefit that results in a large proportion of cases.

We have to consider how far the benefit justifies the risk. At the outset of our inquiry we are met with difficulties. For instance, what is exophthalmic goitre? If we include under this term only the well-marked cases, with all the usual signs and symptoms, we shall find that the operative mortality is very much higher than it is if we follow the tendency of the present day and allow the term to embrace many cases whose claim to this position is at least very doubtful. For instance, a patient with an ordinary parenchymatous goitre, or an adenoma, or cyst of the thyroid, who has some tachycardia and complains of palpitation, is regarded by some observers as a case of mild exophthalmic goitre, by others as an instance of hyperthyroidism, and therefore belonging to the same class, despite the fact that the majority of these cases, if allowed to progress, never develop exophthalmos or the more serious characteristic symptoms of the disease. The validity of these claims I discussed fully in my last lecture, and I will not now enter into the question again. The point which I wish to emphasise is this: that the mortality statistics of two operators equally skilled, and operating in exactly the same manner, will differ enormously if the one includes in his statistics only such cases as come strictly within the limits of the first group, while the other does not hesitate to include all the far less serious forms that constitute the second group.

We should be very careful, then, in drawing conclusions from mortality statistics, as given in published records, unless we know to what class of cases the statistics refer. Probably the only safe test is the pathological one. As I have shown in my first lecture, every case of true exophthalmic goitre is accompanied by definite pathological changes in the thyroid, which should be recorded if the statistics are to be of any real value. Mortality statistics based upon such pathological findings are rare in medical literature at the present day. Another difficulty with which we meet is the fact that cases of Graves's disease do not pursue a uniform and progressive course. While one case will progress gradually from bad to worse, and perhaps even end fatally, in another the disease, for no apparent reason, will come to an end spontaneously. If we knew that every case if untreated would get steadily worse, the dangers of the operation would require less serious consideration. Nobody hesitates to operate for even the worst case of strangulated hernia, because the risk to life if no operation is performed is far greater than the risk of the operation. But with a disease that is not necessarily fatal we should inquire very carefully into the risks of the proposed operation before we recommend it.

Results of Medical Treatment.

First, let us consider the mortality of cases of Graves's disease that are treated medically. We find that it is not very high. Dr. Hale White has investigated carefully the after-histories of a large number of patients, and concludes "that the mortality among sufferers from exophthalmic goitre was about twice that among the general population for the same age and the same time."[2] Dr. Hector Mackenzie,[3] after a very large personal experience of the subject from the medical point of view, came to the conclusion that of cases treated on broad general medical lines about 25 per cent. made a good recovery; another 25 per cent. were very much improved, and, although not cured, the patients were in fair health and able to follow their occupations; another 25 per cent. became more or less chronic invalids; while the remaining 25 per cent. lost their lives from the disease itself, after a longer or shorter illness. Dr. George Murray[4] has expressed the opinion that "the prognosis usually given in text-books is too pessimistic, as a very considerable number of cases do either completely or partially recover without operation."

There can be no doubt, however, that medical treatment really does very little to influence the course of the disease. Most of the patients who recover do so only after a prolonged period of ill-health and often of great distress. The sufferings of patients with well-marked Graves's disease are usually (although not always) so great that they are only too ready to undergo any operation which offers them a chance of relief.

The Mortality of Operation for Graves's Disease.

When we come to consider the mortality of the operation for exophthalmic goitre we find that it is very difficult, indeed impossible, to make any definite statement. So much depends upon the individual operator, upon the method of operating, upon the nature of the operation performed, and especially upon the selection of cases submitted to treatment. Mr. Wilfred Trotter, taking the experience of representative surgeons on the continent, has expressed the opinion that "out of the first 50 cases of any given surgeon he will usually lose five as a direct result of the operation," and that this 10 per cent. mortality is usually considerably reduced in a surgeon's later work, and "is no doubt to some extent to be regarded as a measure of the difficulty in acquiring the special kind of knowledge which goes to successful operating on these cases." This seems to me to be a very reasonable estimate, for though it is easy to find series of cases in which the mortality is a good deal higher than this, yet it must be remembered that statistics often include cases operated upon years ago, when technique was by no means as good as it is now, and when much less care was taken in the choice of cases for operation. Thus the Mayos, who obtain such brilliant results at the present day, lost 4 out of their first 16 patients, von Eiselsberg 3 out of his first 4, and so forth.

The number of patients upon whom I have myself operated for exophthalmic goitre is comparatively small, amounting up to the end of 1912 only to 27. These were all cases of undoubted Graves's disease, in which all the classical symptoms, including exophthalmos, were present, mostly in a very marked form. Of these 26 patients, 2 have died as the result of operation, 1 in 1901 after simultaneous ligation of three arteries, and 1 in 1911 after a bilateral excision. To these cases I shall refer later. The patient with severe Graves's disease, who died before I commenced the intended operation of ligation of a superior thyroid artery, and whose case I described fully in my last lecture, is not included in these statistics. But on looking through the notes of my last 351 goitre operations I find there were at least 33 other patients of whom it is stated that rapidity of pulse, tremor, nervousness, or some similar symptom was one of the principal reasons for operation. Most of these cases would undoubtedly be classed as instances of exophthalmic goitre by those who are not so rigid in their definition of the disease as I am myself. Among these there were no deaths; nor were there any deaths among the cases of like nature in my first 400 operations, which I have already published in full elsewhere, and to which I make no further reference.

SELECTION OF CASES AND TIME AND METHOD OF OPERATION.

Dr. Charles Mayo, writing in July, 1912, states that within the last year he and his colleagues have operated on a consecutive series, between deaths, of 278 cases of exophthalmic goitre without a death, and goes on to say that he believes that this marked improvement upon the statistics of his early cases has been caused by taking into account the so-called "factors of safety" in connexion with the examination, preparation, and operative treatment of these patients. In order to ascertain as far as possible what these factors of safety really were, and to see for myself what cases were actually being operated on by those surgeons who have had the largest experience in the world of the surgery of exophthalmic goitre, I paid in the course of last year visits to the famous clinics of Berne and of Rochester, Minnesota.

At Berne I was somewhat unfortunate in my experience,

[2] Debate at the Royal Society of Medicine, 1912, vol. v., Surgical Section, p. 81. See also the much fuller report in Quarterly Journal of Medicine, Oxford, 1910, vol. iv., pp. 88–99.

[3] Debate at the Royal Society of Medicine, 1912, vol. v.

[4] Ibid., THE LANCET, Feb. 24th, 1912, p. 480.

as during the week I spent there Professor Kocher did not, as it happened, operate on any case presenting symptoms of Graves's disease. I saw several cases upon whom operation had been already performed, and I saw a number of operations for ordinary goitre which gave me an opportunity of seeing his technique, which is the same, I was told, for the exophthalmic variety. This did not differ in essentials from that at Rochester or from that of most surgeons who have much to do with goitre operations, which, indeed, is not surprising, since it is largely from Professor Kocher that most of us have learnt our technique.

At Rochester, during the two separate weeks that I spent there, I had the opportunity of seeing numerous operations upon exophthalmic as well as upon ordinary goitres. I found not only the Mayos themselves, but their colleagues, Dr. Judd, Dr. Beckman, and Dr. Plummer, and the pathologist, Dr. Louis Wilson, all most willing to explain fully in the most open manner exactly what they were doing, and to afford me every opportunity of seeing their patients before, during, and after operation, and the pathological specimens themselves. It is difficult to speak too highly of the care exercised in the examination and preparation of patients before operation, of the operative technique, or the scrupulous accuracy with which their records are kept.

Dr. Plummer, the physician, examines with the most minute detail every exophthalmic goitre patient, in consultation with one of the surgeons, and recommends the suitable cases for operation, or, if necessary, for preliminary medical treatment. He told me that he considered it of the greatest importance to gauge the degree and stage of the thyroid intoxication, and to avoid operation while it is at its height. From the examination of some hundreds of patients he has been able to establish the fact that in the great majority of cases the disease runs a fairly definite course as regards the severity of the intoxication. "If the average course of the disease be represented by a curve, the greatest height of the intoxication is found to be reached during the latter half of the first year, and then rapidly drops to the twelfth month. In many instances it reaches the normal base line during the next six months; more often it fluctuates with periods of exacerbation for the next two to four years. Secondary symptoms and exophthalmos may remain, but the active course rarely continues over four years without distinct intermissions. The ascent may be gradual, sudden, or irregularly marked by many secondary curves.[5]

Dr. Plummer tells me that he considers the operation is done with the greatest safety either quite early in the disease or much later, when the period of greatest intoxication has passed by. He also informs me that the average duration of the disease at the time of operation at Rochester is about two years. There are, of course, some cases upon whom no operation of any kind is performed. In determining the degree of intoxication Plummer and Mayo attach much importance to the amount of mental excitability and muscular weakness which are present; the latter is often very marked in the quadriceps, and is easily tested by asking the patient to step up on to a low stool. Dilatation of the heart exceeding one inch they regard as a serious condition, while that extending to an inch and a half may be expected to give a percentage of unavoidable mortality for the radical operator of partial thyroidectomy. Dr. Plummer is, I believe, about to publish more fully his extensive and valuable observation on these points.

The dangerous cases, in which operation in my opinion should *not* be undertaken, are those acute ones in which there is much thyroid intoxication as shown by great excitability, mania, or muscular weakness, or who are suffering from any acute inflammatory infection such as bronchitis; secondly, those in which marked degenerative changes have taken place in the viscera, especially the heart and kidneys. Albuminuria, glycosuria, diarrhœa, a constantly irregular pulse, and low blood pressure are all conditions which should lead the surgeon at least to postpone operation; and if these conditions cannot be remedied by medical treatment, operation should not be performed at all. Of all chronic complications, marked dilatation of the heart is perhaps the most common and the most serious.

It is in the severe type of case, in which thyroidectomy is likely to be very dangerous, that ligation of arteries may sometimes be performed with advantage. Ligation of the superior thyroid artery is chiefly useful as a means of ascertaining the susceptibility of the patient to operation rather than as a means of cure. In any case in which it is doubtful whether the patient is fit to undergo the larger operation of partial thyroidectomy, it is well to begin with a preliminary ligation of one superior thyroid. If the reaction from this is slight, partial thyroidectomy can probably be carried out with safety a week or two later on the other side. If the reaction be severe, the best plan is to tie the opposite thyroid before resorting to thyroidectomy, or possibly to be content with ligation alone. Dr. Charles Mayo, who has had a very large experience of ligation, considers that the reaction after ligation of one superior thyroid artery is about three-fourths as severe as bilateral ligation, but that the missing fourth is an element of safety. The subsequent ligation of the opposite artery a week or two later is a much less severe proceeding.

I cannot conclude this part of my subject without referring to the brilliant work of my friend, Dr. T. P. Dunhill, of Melbourne, who has had a very large operative experience of exophthalmic goitre, and who is one of the most enthusiastic advocates for operation in this disease. Dr. Dunhill is perhaps more willing to operate on really bad cases of the disease than any surgeon I know, and his results are certainly admirable. For details I must refer to his introductory address, which opened a valuable debate on the treatment of Graves's disease at the Royal Society of Medicine just a year ago.[6] Both the address itself and the long debate which followed, in which most of the principal authorities on the subject in this country, surgeons, physicians and anæsthetists, took part, are well worthy of careful study. I may add that I have quite recently received a letter in which he states, in answer to a question of mine, that he has in no way altered his views, and that he continues to operate on large numbers of exophthalmic cases.

THE ADVANTAGES OF OPERATION.

We turn now to the advantages of operation. That patients do derive great benefit from operation in nearly all cases there can be little or no doubt. The testimony of all surgeons who have had much to do with exophthalmic goitre is overwhelming on this point. Of my own operation cases, with the exception of the two that died, there is not one that has not benefited by the operation, although in one or two the benefit has not been great, and in one case at least there has been a slight relapse.

Patients undoubtedly do improve in a manner that is not seen, as far as I know, after any other method of treatment. Even after a single ligation they nearly always say they feel better. After double ligation the benefit is usually still greater. A lady whom I saw at Rochester several weeks after Dr. Charles Mayo had tied both superior thyroids for severe and pronounced exophthalmic goitre said to me: "When I came here four months ago I was so wretched and miserable that I did not care whether I lived or died; now I feel well and happy"—and certainly she looked it.

A case of my own is that of a lady, aged 39, who had had all the classical symptoms of Graves's disease for nearly two years when I first saw her. After two months' preliminary treatment I removed the right lobe in May of last year. In October she wrote to me as follows:—

> I feel an absolutely different woman since you operated upon me for exophthalmic goitre in May last. My general health is good, and my relations tell me that never in my life have they seen me look so well. The nervousness has quite disappeared, also the trembling, and my eyes are normal, while my colour is fresh and clear. The palpitations have quite ceased, and altogether I feel like one "risen from the dead," as it were.

Another patient, a woman, aged 34, with typical exophthalmic goitre, from whom I removed one lobe (shown to you at the last lecture), writes to me four months later:—

> I am glad to say I am feeling much better now. Previous to the operation I had suffered from great heats, palpitation of the heart, sleeplessness, and nervousness, but all these symptoms have almost disappeared. Of course, I have to be very careful, as any over-exertion causes my heart to beat rapidly. I have very good nights, and have regained all lost weight, from 8 st. 2 lb. to 9 st. 6 lb. It is splendid to feel so much better, and I hardly know how to thank you for all you have done.

I could easily multiply examples such as these. Patients in whom emaciation is a feature of the disease, as in the

[5] Factors of Safety in Operating for Exophthalmic Goitre, by Charles H. Mayo, Journal of the American Medical Association, July 6th, 1912, vol. lix., pp. 26, 27.

[6] THE LANCET, Feb. 17th, (p. 422) and 24th (p. 503), and March 2nd (p. 576) and 16th (p. 724), 1912.

above case, and I need hardly say it is a common feature, often put on flesh rapidly after the operation, although there may be an initial loss of a few pounds as its immediate result.

Perhaps the most striking examples of the benefits of operations are to be seen in the case of men who, on account of their complaint, have been quite incapacitated from work. Thus I may cite the case of a man from whom I removed the right lobe of the thyroid for typical Graves's disease in June last. For ten months before the operation he had not been able to do any work. Yet when I last saw him a few days ago he told me that he felt so much better that he was now hard at work as a scaffolder. He still shows symptoms of his disease, but he is at any rate now able to earn his living.

In estimating the actual amount of benefit that follows operation in any given case we must bear in mind the fact that in exophthalmic goitre the symptoms are of a particularly subjective character, and that the functional disability of the patient does not bear a constant relation to the physical signs; for example, a patient may have all the cardinal signs in such a well-marked degree that there is not the least doubt as to the diagnosis, while he may complain of nothing but occasional palpitation, and is quite able to do his work. Whereas another patient with similar or even less distinct signs may be compelled to lead the life of an invalid. When we examine a patient a few months after operation we sometimes find that he has still some exophthalmos, tachycardia, and enlargement of the thyroid gland, and on asking the usual questions we are told that he is still subject to palpitation, and to a certain amount of breathlessness on exertion. Then, while we are preparing to write the case down a failure, we are surprised to find that, in spite of all, we are dealing with a very grateful patient, who declares that he is much better, and is able to lead a very much more active life than formerly.

I think there can be no doubt that operation does in many instances relieve the subjective distress which is so characteristic of the disease, and although such improvement, when unaccompanied by much obvious change in physical signs, is not of much value for statistics, it is certainly a practical point which ought not to be overlooked. A good instance of this is afforded by the case of a woman, aged 26, with pronounced and typical exophthalmic goitre, from whom I removed half the thyroid in July, 1909, and whom I have been seeing from time to time since that date. She still has exophthalmos, and she still has some tachycardia, but always expresses herself as being very much better for the operation. When I last saw her a week or two ago, seeing that she still had the objective signs of the disease, I asked: "In what way are you better?" And her reply was: "Well, before the operation I was frequently laid up and away from my work, and now I never am."

THE QUESTION OF ANÆSTHESIA.

With the much-discussed question of anæsthesia I must deal briefly. Much depends upon the anæsthetic and much upon the patient. My own feeling upon the matter is that for exophthalmic goitre chloroform is more dangerous than ether, even when administered by a highly skilled anæsthetist; ether given by a closed method is much more dangerous than ether on an open mask; while the method which is most suitable of all for the severe type of case is local analgesia, provided that the patient is willing to submit to operation under these conditions.

The main advantage of local analgesia is that the patient can drink freely during and immediately after the operation. This certainly diminishes the tendency to excessive post-operative tachycardia, which is one of the principal dangers. The absence of post-anæsthetic vomiting renders recurrent venous hæmorrhage less likely to occur, although if sufficient care be taken with hæmostasis the strain of retching ought not to have any bad result. The principal disadvantage is the psychic effect upon the patient if very nervous; a general anæsthetic may be less injurious than the nervous excitability caused by dread of the operation. It is important, I think, not to operate upon any one who is in a condition of great alarm. In hospital practice, where the patients can talk to one another and the effects of previous operations on others can be seen by those about to undergo a similar experience, these fears can usually be quickly allayed. I find that, as a rule, before the day arrives the patient has lost much of her dread and is eager to submit to operation. Crile's method of "stealing the gland" by administering an anæsthetic on several occasions before the real operation is undertaken, so that the patient does not know when the operation is to be performed, does not seem to me to have much in its favour, and I have never employed it.

Von Eiselsberg[7] states that at first when operating for Basedow's disease he was careful to avoid the use of general anæsthesia, but that of late he had been employing it in some cases of very nervous patients, in whom otherwise the danger of shock seemed to him to be too great. I think that most surgeons would agree that, however strongly they advocate the use of local analgesia, there are cases in which a general anæsthetic must be employed.

OPERATIONS FOR EXOPHTHALMIC GOITRE.

I come now to the various operations which may be performed for exophthalmic goitre.

Exothyropexy and Operations on the Sympathetic.

With regard to exothyropexy and operations on the sympathetic, I cannot believe that either of them is worth doing, and I need not say much about them. Operations upon the sympathetic are performed by very few surgeons. Jaboulay and Jonnesco are the two who have had most experience of this method. When at Bucharest two years ago I was informed that the latter still practised the operation, but I did not see any of his patients.

Jaboulay[8] in 1911 wrote a good account of 31 patients on whom he had operated. Three were mild cases, all the rest were of "true typical exophthalmic goitre"; none were of the so-called "basedowified" goitre, what we should call secondary Graves's disease. In 21 cases the superior cervical ganglion was removed together with part of the main sympathetic trunk immediately beneath it; in nine cases the main nerve was simply divided, usually just below the superior ganglion, once below the middle ganglion; in one case mere stretching of the sympathetic was the operation performed. Of patients operated upon before 1900, five died from septic complications (pneumonia and erysipelas) due to bad hospital conditions. Since 1900 only one patient has died, and this one had the usual hypertrophy of the thymus, to which the death is attributed. Of the 25 patients who survived the operation, 1 cannot be traced; 2 were in perfect health four and six years after operation, but have since been lost sight of; 12 were living at the time of the report; 7 after having been notably improved by the operation have since died, mostly from four to nine years afterwards, from an intercurrent disease; 3 died as the result of a further operation upon the gland itself, intended to complete the cure. Eliminating the cases that cannot be traced, and those that have been operated upon within two years, he says that 15 out of 21 have survived for more than four years, and of these 15 there are 9 still living 12 and 14 years after. His conclusion is that the patients can live a long time after the operation, and that this proceeding arrests or cures the disease. He gives details of 3 undoubted cases of complete cure. Jaboulay notes also the interesting point that in no case has he seen the least trophic disturbance in the eye or face as a consequence of his operative interference with the sympathetic.

These results do not seem to me to be very encouraging. I have never performed this operation myself, nor do I feel at all inclined to recommend it. The only case of the kind that has come under my own observation, although not in my own practice, was that of a young woman with well-marked signs who died within a few hours of the operation with the usual symptoms of so-called hyperthyroidism, restlessness, excessive tachycardia, and a very high temperature.

Heinlein[9] reports an interesting case on which exothyropexy was performed. The patient had exophthalmos, tremor, emaciation, and a pulse-rate of 150. The author decided to do a partial thyroidectomy. Local anæsthesia was employed, and the right upper and two lower arteries were first tied. The operation proved very difficult, and when it had lasted two hours the man's condition was such that Heinlein concluded it rapidly by leaving a portion of the gland exposed

[7] Verhandlungen der Deutschen Gesellschaft für Chirurgie, 1911, Band xl., p. 53.
[8] Jaboulay and Chalier: Lyon Médical, 1911, vol. cvi., pp. 501–05.
[9] Münchener Medizinische Wochenschrift, 1909, Band lvi.

instead of removing it. The portion exposed dried up gradually, and at the end of six months a prominence of the size of half a hen's egg remained, while all the symptoms had completely vanished, the pulse-rate being 60 and the nutrition good. In spite of the success of this case the author does not recommend exothyropexy, but considers partial thyroidectomy to be the operation of choice.

Ligation of Thyroid Arteries.

Ligation of arteries has, in my opinion, a well-established position in the surgery of exophthalmic goitre. Ligation of one superior thyroid artery has the advantage that it is a comparatively small operation, that can often be performed with more safety than a hemithyroidectomy. Even bilateral ligation of the superior thyroids is less severe than partial thyroidectomy. Ligation of the inferior thyroid is, however, a difficult and somewhat severe procedure, and should, I think, rarely be adopted. Ligation of both superior and one inferior arteries may be quite as severe as removal of half the gland. It may, perhaps, be advisable in some cases of large goitres in very thin people, since in thin subjects the mechanical difficulties of tying the inferior artery are less.

Here is a photograph of a man aged 32, one of the most advanced cases of Graves's disease I have ever had to deal with. He had well-marked exophthalmos, palpitation, rapidity of pulse, tremor, emaciation, diarrhœa, and extensive bronzing of the skin. He was so nervous and excitable that for some months he had been wholly unable to follow his occupation, that of a clerk. He told me that he was anxious to undergo any operation, however dangerous, which would afford him any prospect of relief. In July, 1901, I tied both superior and one inferior thyroid arteries, under local anæsthesia; he stood the operation well, and within a few weeks a most extraordinary improvement set in. His palpitation vanished almost entirely, his pulse-rate fell markedly, the diarrhœa disappeared, and he lost practically all his subjective symptoms. He was able after a few weeks to return to work, and although he never completely lost the exophthalmos and was liable to occasional attacks of palpitation during excitement, he was practically well and always expressed himself as most grateful for the amount of benefit he had received from the operation. When I last saw him, 14 months after the operation, he told me that he felt quite well and "was able to do his work as well as anyone else." His weight, which before operation was only 5 st. 4 lb., increased to 9 st. 7 lb. He remained at work until the day of his death some time afterwards. He died suddenly in an epileptic fit. He had been subject to epilepsy for years before the exophthalmic goitre began.

Shortly after this I did precisely the same operation on a young woman with ordinary well-marked exophthalmic goitre of about three months' duration, but she died in 36 hours with typical symptoms of hyperthyroidism. I have no doubt now that in this last case I did too much. The case was too acute for simultaneous ligation of three arteries. At the present time in such cases as the above I should proceed more slowly, tying not more than one or possibly two arteries at a time.

Simultaneous ligature of all four arteries I have never performed, and I doubt if it is a justifiable proceeding. It is quite as severe as hemithyroidectomy, and may be followed by myxœdema or tetany.

It must not be supposed that ligation of even a single superior artery is wholly free from risk. On the contrary, it has a distinct mortality. Thus, of the 17 deaths in Kocher's large series 5 occurred after ligation of arteries. It has been objected by some that, as the benefit conferred on the patient is much less than that obtained by thyroidectomy, and as the risk is appreciable, it is not worth doing. But when we compare the risks of ligation with those of thyroidectomy, it must be remembered that it is precisely in the worst cases that ligation is usually performed, cases in which the prudent surgeon would probably not think it right to do the larger operation.

As regards the operation itself, in a thin subject with a fairly large goitre—that is, one in whom the artery is large and fairly superficial—the operation presents no great difficulty. The chief trouble is from the overlying superficial veins, which sometimes are numerous and easily wounded. An oblique incision is made along one of the natural creases of the skin. The best guides to the artery are the omohyoid muscle, at the outer border of which it is usually tied, and the upper pole of the gland itself. If any difficulty is experienced in finding the latter I have found it useful to ask the patient to swallow; the upward movement of the gland will render its detection more easy. The pulsation of the artery itself is also a good guide, but care must be taken not to mistake for this the pulsation of the main carotid or one of its branches. It is best to tie the artery close to the gland, or even to include in the ligature the upper pole of the gland itself. By this means the chance of a collateral circulation being established is rendered less likely. The superior thyroid generally gives off a large branch close to the apex of the gland, and the ligature should include this branch. I think it best not to separate the artery from the vein, but to tie both in a common ligature together with the lymphatics. The wound should usually be closed with buried catgut sutures, without drainage.

Ligation of the inferior thyroid artery is a very much more difficult operation. It may be performed either through a long incision at the anterior border of the sternomastoid, in which case numerous large veins will have to be secured, or at the posterior border of that muscle. The latter method is that which I have myself adopted in the few cases in which I have performed this operation. It involves less disturbance of the gland and less trouble with the veins. But a deep and careful dissection is required, as the artery lies close to many important structures, and a good knowledge of anatomy is very necessary.

Partial Excision of Thyroid Gland.

I come now to the operation of removing part of the thyroid gland, which should be the operation of choice for exophthalmic goitre. It is important that the operation should be performed as quickly as is consistent with thorough hæmostasis. The utmost care should be taken to prevent hæmorrhage by securing at once with forceps every bleeding point. The main superior thyroid vessels should be tied as soon as possible, and then, after the other thyroid veins have been dealt with, the main inferior artery should be ligated with its veins. For exophthalmic goitre ligation of the main artery well outside the recurrent nerve is preferable to tying the branches close to the gland. Access to the artery is much facilitated by lifting the lobe up and drawing it forwards and inwards. But on account of the firmness and solidity of the gland it is often much more difficult to do this with an exophthalmic than with an ordinary goitre. With both classes of goitre, but especially with the exophthalmic variety, the difficulty is greatly increased if the isthmus is very thick, as it often is.

I should like here to emphasise once more the necessity for avoiding undue hæmorrhage. Next to asepsis, efficient hæmostasis is the most important point in the removal of exophthalmic goitre. It is loss of blood, more than anything else in my opinion, which is the cause of the post-operative mortality in these cases, in the hands of surgeons whose asepsis is beyond reproach.

It is customary to lay great stress upon the avoidance of bruising or crushing of the gland. But in spite of the opinion of Dr. Dunhill, of whom I speak with the greatest respect, I believe that this danger is greatly overrated, and is much less than that of hæmorrhage. A recent writer[10] states that Kocher cures all cases of Graves's disease by thyroidectomy with a mortality of 2½ per cent., and that his success depends on the delicacy of the operation, so that no secretion is forced into the circulation. The first part of this statement is certainly not borne out by Kocher's own publications. The second part is, I venture to think, a most dangerous doctrine. The writer makes no mention whatever of the many other precautions on which Kocher rightly lays so much stress, and if anyone should be led to operate on the assumption that the one thing essential was manipulative delicacy, he would very soon meet with disaster. Albert Kocher states quite definitely that he does not consider the attacks of acute thyroidism to be the result of pressure on the gland, since if this were the case symptoms would set in immediately after operation, whereas not seldom they do not begin until from 12 to 24 hours after operation. He mentions also the fact that massage of the gland has been used by Weir Mitchell in treatment without any bad results. With his opinion I entirely concur. I do not think that the

[10] Practitioner, December, 1912.

so-called attacks of acute thyroidism are to be explained solely, if at all, by mere manipulation. I may here add that by far the most important point in the after-treatment is the administration of large amounts of water immediately after operation, either by the mouth or by the rectum, or even subcutaneously in the form of saline solution.

Extent of Removal of Gland.

The question how much gland shall be removed is difficult to answer; much depends on the skill of the operator and his familiarity with the operation. For most cases it is best not to remove more than one lobe. If necessary, more may be removed subsequently. But if too much be removed at once the patient may die. The largest amount that I have myself removed at a single sitting was five-sixths of each lobe, but this was after two preliminary ligations, and the goitre was not a large one, the total removal being only a little over 6 oz. (182 grm.). The patient was very greatly benefited, and may be said to be almost completely cured. But I now think, nevertheless, that I did too much, and that the patient ran an unnecessary risk. The only case that I have lost from removal of an exophthalmic goitre was that of a lady aged 33, who had had well-marked Graves's disease for four years. I kept her in bed for a fortnight, and then removed nearly all the right lobe without having done a preliminary ligation. Finding that she stood this part of the operation well, I was tempted to go on to removal of half the left lobe. The increased duration of the operation, with the additional hæmorrhage that was necessarily involved, proved too much for her, and she died suddenly three hours after the operation. I did not at that time realise sufficiently the difference between operating upon an exophthalmic and upon an ordinary parenchymatous goitre; in the latter class of case I have done far larger bilateral operations many scores of times without the least fear or anxiety.

I may here allude to two points of some practical importance; one is that the removal of even half the second lobe in any goitre operation is likely to be a more severe proceeding than complete removal of the first lobe. For the simple reason that in the complete removal of a lobe the hæmorrhage can be greatly lessened by ligation of both thyroid arteries of that side. In the partial removal of the second lobe this is generally not permissible, and the cutting through the substance of the gland tissue may lead to more hæmorrhage than is desirable. The other point is that operations upon exophthalmic goitres are undoubtedly more severe and more dangerous than operations upon ordinary goitres of the same size in patients of the same age. Upon this point practically all operators of large experience in thyroid surgery are agreed.

If removal of one lobe is not sufficient to cure the patient a second operation may be performed upon the remaining lobe. But this second operation should, in my opinion, never be a complete removal, as this involves too much risk of myxœdema or of tetany. A considerable portion of the second lobe should always be left, together with one thyroid artery supplying it. One sometimes hears it said that it does not matter if you do remove the whole gland; the patient can easily be fed upon thyroid, or grafting of thyroid may be done. I venture to think that this is a grave mistake. I believe firmly that total removal of the thyroid gland should never be performed for any disease whatever. I am not disposed to make an exception even for malignant disease, although it is possible that there may be some very exceptional cases of this kind where it is not advisable to leave even a portion of one lobe. But this matter I leave for discussion in my next lecture. Not long ago I was consulted by a lady who had a small bilateral fibro-cystic goitre of an extremely common type which was causing her no serious symptoms whatever. To my extreme surprise I learnt that she had just been advised by a London consultant, who was not an operating surgeon, to undergo complete bilateral thyroidectomy on the ground that the gland might or would become cancerous! I need hardly say that no operation was done.

The dangers of total removal—tetany and myxœdema—are well known. Perhaps not so well known is the fact that there are persons who cannot take thyroid extract. In any case, the condition of a person taking thyroid constantly is not so good as that of a person who has a bit of normal thyroid. Even a small bit of natural gland is much better than none, for it can hypertrophy and gradually take on the functions of the gland. Fortunately, it is a difficult matter to remove the whole thyroid gland completely, and many persons owe their lives, or at any rate their health, to the fact that an operator desiring and intending to remove the whole gland has accidentally left behind some outlying portion of it. Of this, I described and figured an excellent illustration some years ago in my book on "Diseases of the Thyroid Gland."

Just as thyroid feeding cannot invariably be depended upon to take the place of a thyroid gland that has been removed, so is thyroid grafting an unsatisfactory and unreliable means of providing a patient with a due supply of thyroid. Thyroid grafting is an operation by no means to be despised or condemned. I have done it several times for cretinism, putting small pieces of gland either under the breast, in the subperitoneal tissue, or in the medullary cavity of the tibia. Although in every case of mine the wounds have healed aseptically, the improvement in the patients' condition has not been sufficient to enable them to discontinue permanently the taking of thyroid by the mouth. Of grafting after operations for removal of the thyroid I am glad to say that I have no personal experience, as none of my patients have ever needed it. It is probable that when patients have been apparently restored to health by thyroid grafting, the improvement has been due rather to the development of some small portion of gland that was accidentally left behind than to the grafting. At any rate, there is at present, so far as I know, no definite proof that thyroid grafting can be relied on to take the place of normal gland. At present the operation, although often worth trying, cannot be said to have advanced beyond the experimental stage, and it is dangerous to rely upon its supposed efficacy. For a full discussion of the whole subject of thyroid grafting, with many references to other papers, I must refer you to an interesting and valuable paper by Groves and Joll.[11]

The Position as to Operation in Graves's Disease.

In conclusion, Sir, I should like to express the opinion that exophthalmic goitre is a disease of which the treatment, whenever possible, should be carried out jointly by the physician and surgeon. I venture to ask whether the time has not arrived when physicians should recognise that they can do little or nothing for its actual cure, but that they can do much to get the patients into a proper condition for operation. On the other hand, the surgeon should realise the value of medical treatment as a preliminary to surgical interference, and should remember that there are stages of the disease during which the patient should be entirely in the physician's hands. It is common to hear of patients, who might be much benefited by operation, being kept indefinitely under medical treatment in out-patient departments, or intermittently in the medical wards, before a surgeon is even asked to see them, and when he is called in it is often to some desperately bad case on which he is expected to operate immediately as a last resort.

In summing up our certain knowledge as to the dangers and advantages of the operative treatment of Graves's disease, I think we may say that operations upon exophthalmic goitre are undoubtedly more dangerous than similar operations for most other kinds of goitre, but that the dangers may, however, be greatly reduced by careful attention to details, especially in the selection of cases for operation, and in the choice of the time at which the operation should be performed, in the preliminary treatment of the patient, in the methods of operating, and in the after-treatment.

That much benefit nearly always follows operation is undoubted, and that cure does sometimes follow as a direct result of the operation, especially in early and slight cases, there can be equally little doubt. Even in really bad cases, in which operation must involve serious risk, so much improvement often results that operation should not be too lightly put aside.

There is still much room for difference of opinion on many aspects of the question. I have tried to put before you as fairly as I could both my own views and the views of those of larger experience than myself.

In my next lecture I shall deal with varieties of thyroid disease other than Graves's disease. I hope to be able to show you a number of patients upon whom I have operated both for this disease and for other kinds of thyroid tumour.

---

[11] Brit. Med. Jour., December, 1910.

PRINCIPLES OF PERCUSSION AND AUSCULTATION.[1]

BY FRIEDRICH MÜLLER, M.D., LL.D.,
PROFESSOR OF CLINICAL MEDICINE AT THE UNIVERSITY OF MUNICH.

THOSE who have taught physical diagnosis have realised, I am sure, the difficulty of giving precise definitions of the conceptions of the percussion sound and the auscultatory symptoms. The usual clinical terms "clear," "flat," "dead," "full" are metaphorical and not coincident with the conceptions of scientific physics. They therefore give rise to much confusion. We shall overcome these difficulties only if we go down to the very principles of physics and use the rules and terms of science instead of the ambiguous expressions of clinical practice. The works of Helmholtz, of Tyndall, and of Geigel[2] will give the best advice to all physicians who wish to deal more exactly with these problems of acoustics.

The varieties of sound are comprised in the following terms: 1. *Loud* and *soft* express the intensity or amplitude of the waves. 2. *High* and *low* or the pitch gives the number of waves in the second, and therefore the length of the single vibration. 3. *Long* and *short* mean the duration of the total sound. I propose not to use the term "timbre" or "colour" of sound, because this only depends on the combination of the fundamental tone with different overtones.

Difficulties will arise as soon as we proceed to analyse the sounds of percussion and auscultation, because the physical methods of analysing sounds have not been sufficiently worked out for our purpose. We were, therefore, obliged to find our own way. For the estimation of the intensity we have used a very thin rubber membrane armed with a minute mirror, which reflected a light ray on to a photographic film, or the microphone in combination with Einthoven's galvanometer.[3] The same instruments give evidence of the total duration of the percussion sound. A simpler method of estimation is based upon the physical law, that the intensity of sound diminishes with the square of the distance. This law is employed in otology for measuring the acuity of hearing. We can apply the converse principle and estimate the intensity of sound by the distance over which it is still perceptible. A flat percussion sound will be distinguished only in the immediate neighbourhood of the patient; a loud sound in the most remote seats of a large amphitheatre.

We conclude from our estimations that the percussion sound of the normal lung and other air-containing organs shows, not only a far greater intensity, but also a longer duration than the flat sound of a solid organ. The tracings with the sensitive membrane or the Einthoven galvanometer show for the full sound of the lung an amplitude three or four times as great and a duration twice (0·42 to 0·28 second) as long as the flat sound. It is obvious that such a comparison is only permissible if the same experimental conditions are kept—i.e., if the percussion stroke is of the same kind and intensity. But the conception of "dulness" ("matité" of Laënnec) is not fully identical with small amplitude and short duration. We realise that the problem is more complicated as soon as we proceed to consider the pitch.

In the first place we found great difficulty in analysing the pitch. The microphone proved to be unfit, because it was accompanied by too many errors and because it did not respond with the lower tones. The direct registration by sensitive membranes (rubber membranes or soap bubbles) and transmissions of its vibrations by a ray of light to a photographic film give beautiful drawings,[4] but it is often difficult to determine which part of the waves is dependent upon the fundamental tone of the membrane and which is the true expression of the given percussion sound. This method is not yet worked out perfectly, and it gives good results only if the sound is loud enough. We got the best results by the use of resonators. The spherical resonators of Helmholtz did not respond so clearly as those of conical form, to which Professor Röntgen has drawn my attention. The conical tubes were manufactured from tinplate. The length of the cone is four or five times as great as the diameter of the base. The apex of the cone shows a lumen of 2 millimetres and is applied directly to one ear, or by the tube of a binauricular stethoscope to both ears. The keynote of each cone is identical with that of a cylinder open at both ends—i.e., the conical resonator responds to a tone of double its wave length. We use a long series of such cones, the length of which varies from 10 centimetres to 3 metres. The application of such a long series of single resonators offers some inconvenience, and we therefore proceeded to use resonators of cylindrical shape. Two or more cylindrical tubes were fitted into one another, like a telescope; one end of the inner tube is closed and perforated by a small opening of 2 millimetres upon which the tube of a binauricular stethoscope can be fitted. The length, and therefore the keynote, of these cylindrical resonators can be changed easily, and their use has great advantages. A cylinder closed at one end responds to a tone of four time its wavelength. If the tube is applied with its open end to the chest wall for the purpose of auscultation, it follows the laws of cylinders closed at both ends and responds to a tone of twice its wave length—i.e., to the higher octave. The diameter of the tubes is of little importance. We use cylinders with a diameter of 3 or 5 centimetres. An experienced ear is easily able to distinguish with what length of the tube resonance takes place. The length of the tube expressed in centimetres permits one to read directly the pitch of the tone.

It is necessary to remember that the low fundamental tone of a resonator never can be evoked by a higher tone, but that a high tone is able to evoke the high partial tone of a big resonator. With the help of the resonator tubes we have been able to ascertain that the percussion sound of the normal lung is characterised by a very low note of the contra octave (especially A) or the upper half of the subcontra octave. Very often we found the best resonance with a length of the tube of 1·6 to 1·8 metres—that is, A_1 to G_1.

The foam-like substance of the normal lung answers with very low and slow vibrations to the stroke of the percussor, and we conclude that the fundamental tone of the normal lung is very low. But this very low sound is only heard if the lung is fully expanded with air and if the part set into vibration is great enough. The thinner edges of the base of the lung near the diaphragm or covering the heart give a higher pitch. The apex of the lung gives, too, a distinctly higher pitch than the lower parts, especially on the back below the scapula. The lung of a child gives a higher note than that of an adult; the emphysematous lung and the pneumothorax the lowest.

You may convince yourself of the resonant quality of the lungs by a very simple experiment. Put your hands on both sides of your own chest and sing the scale. You will feel no vibrations as long as you sing the upper parts of the scale. From a certain point of the scale vibrations of the chest wall become perceptible, and are strongest with the lower notes of the bass voice. My assistant, Dr. Edens, was able to record these vibrations of the chest wall with Otto Franks's sphygmograph, and has shown that the figure of thoracic vibrations exactly corresponds with the oscillations of the sungen tone. We may conclude that the lung is set into vibration like a Helmholtz resonator as soon as its fundamental tone is emitted. We understand why pectoral fremitus is commonly not distinctly perceptible on the female chest wall. The female lung has nearly the same low fundamental tone as the male, but the female voice is not suited to emit the low keynotes which only find resonance in the lung tissue.

The tympanitic percussion sound of the air-containing intestines is of distinctly higher pitch than that of the lungs; it responds to an open resonator of from 30 to 50 centimetres length—i.e., from D to E of the scale. The tympanitic sound is characterised by a simpler constitution.

---

[1] This paper reproduces in substance a clinical lecture delivered at Guy's Hospital on June 29th, 1911, but only now received for publication in England.

[2] John Tyndall: Sound, German edition by Helmholtz. Richard Geigel: Leitfaden der diagnostischen Akustik, Stuttgart, Verlag von F. Enke, 1908. H. von Helmholtz: Die Lehre von den Tonempfindungen, Braunschweig, 1896.

[3] Th. Selling: Untersuchungen über den Perkussionsschall, Deutsches Archiv für Klinische Medizin, Band xc., p. 163, 1907. F. Müller: Der Ausbau der Klinischen Untersuchungsmethoden, Zeitschrift für Ärztliche Fortbildung, 3. Jahrgang, 1906. Idem: Zur Physikalischen Diagnostik, Verhandlungen des Deutschen Kongresses für Innere Medizin, Wiesbaden, 1911.

[4] May und Lindemann: Graphische Studien über den Percussionsschall, Deutsches Archiv für Klinische Medizin, Band xciii., p. 100.

May and Lindemann have been able to trace its vibration by means of a soap membrane, and found that it nearly corresponded to a single tone, while the percussion sound of the normal lung gives a very complicated diagram made up of various higher, and especially lower, tones.

The dulness of the infiltrated lung (pneumonia) or pleuritic effusions shows not only a very small amplitude of the vibrations but also a deficiency of the lower tones. It is not only soft but higher too. And because the lower tones always have a longer duration than the higher ones, the percussion sound in case of dulness is quicker extinguished (damped) and has a shorter total duration than the sound of the normal lung.

Though the total duration of the percussion sound is always rather short, amounting only to half a second or less, the ears of many physicians are especially adapted to perceive the duration, and they therefore use the expression "short" instead of "dull," not without good reason. In beginning tuberculosis of the lung the percussion sound of the affected apex at first shows only the deficiency of the lower tones, and therefore appears *in toto* higher and shorter. A difference of amplitude (loudness) is scarcely or not at all perceptible in early cases; a distinctly smaller amplitude—i.e., real dulness or flatness—is a sign of more intense infiltration.

The physical analysis of the auscultatory phenomena presented greater difficulties than that of the percussion sound. The intensity of the respiratory sounds is so very small that our apparatus up to the present time proved unable to record its vibrations. Only the most sensitive of all acoustic apparatus, the human ear, is fit to perceive it fully. We first tried to use microphones and telephones of different types. But they did not respond to the sound of normal vesicular breathing, but only to that of bronchial and tracheal breathing. An exact exploration by the scale of tuning forks gave evidence that the telephone and microphone do not respond to low tones as well as to high ones, or to the lower tones not at all if they are of low amplitude. This experiment led to the conclusion that bronchial breathing was made up of high tones only, and that in vesicular breathing high tones are not present, but only low ones. An exploration by resonating tubes of different length proved that this assumption was right. Normal vesicular breathing gives only resonance with tubes of 120 to 300 centimetres length (C to A_1), bronchial breathing with tubes of 26 to 60 centimetres (F″ to D′). Consonating râles in infiltrated lung resonate on an average in the same part of the scale as bronchial breathing, partly with higher tones. The metallic sound in percussion as well as in auscultation (amphoric breathing, metallic resonant râles) are characterised by very high overtones perhaps of 1000 to 5000 waves in the second.

We must make the conception of bronchial breathing as clear as possible. Real bronchial breathing is heard over complete pneumonic infiltrations or over totally compressed atelectatic lungs—i.e., on the upper parts of pleuritic effusions. This characteristic breathing sound consists of only high tones, and resembles exactly the sharp *ch* sound of the German language. The so-called bronchial breathing over tuberculous cavities commonly shows a lower pitch. Tracheal breathing is not at all coincident with bronchial breathing, as is often said. The breath sound over the trachea shows especially the high pitch of a tube of the same diameter, but this sound is mixed with the low sound of vesicular breathing. The bronchi which ramify into the interior of the lungs conduct the vesicular breathing sound to the trachea. We can convince ourselves very easily of this fact if we practise the auscultation of the trachea with the help of a long rubber tube—viz., a gas tube averaging 2 metres in length. The long air tube between the trachea and the ear deadens or damps the high tones of the tracheal breathing nearly to complete extinction, and the low tones of the pre-existent vesicular breathing alone remain perceptible. This experiment proves that the interposition of an air space damps the higher waves more than the low ones, and a solid bar of wood or iron conducts the higher sound waves far better than an air tube of the same length.

The spongy substance of the normal lung seems to have a far more damping effect upon high sound, than air alone; it may be because the manifold reiteration of air bubbles and the walls of the lung vesicles give rise to reflection and extinction of the waves. A comparatively small layer of lung tissue deadens and extinguishes the high pitch of the underlying tracheal and bronchial tubes almost completely, and only in the immediate neighbourhood of the trachea and the principal bronchi are we able to hear a trace of its characteristic high breathing sound. In the lower parts of the lung no trace at all of the bronchial breathing sound is heard. The normal lung extinguishes, too, the sound of the heart over a short distance. Only if the lung is consolidated by inflammation, by neoformation of connective tissue, or by compression does its conducting power increase and equal the conducting power of solid masses, and under these conditions only are we able to perceive on the chest wall the high whistling sounds which originate in the bronchi. Characteristic bronchial breathing seems to originate only in the greater bronchi of the first, second, and third order. The smaller bronchi seem from our experiments to be too narrow to give origin to perceptible sounds.

It is not easy to give a convincing explanation of the origin of the normal vesicular breathing sound. It is likely that the stretching and successive extension of the lung tissue give origin to vibration of the lung substance as a whole and therefore to the low characteristic sound. A comparison between the size of the lung in the living body and the contracted organ after it has been removed at a necropsy shows clearly that the lung must be very greatly expanded in the normal thoracic cavity, and this expansion increases with every inspiration.

I have tried to give a picture of the results of our experiments in the following scale, and we may conclude from the scale that the normal lung responds on an average with the same low sound, if its fundamental tone is evoked by percussion or by the stretching of inspiration or by the voice. The fundamental tones of the cavities of the abdomen have a higher rate of vibration; the fundamental tone of the bronchi (bronchial breathing, consonant râles) takes its place between c′ and c″; and the metallic sound is characterised by the highest overtones. The normal heart sounds and the murmurs of valvular diseases show the same pitch as vesicular breathing—i.e., between 60 and 160 waves in the second—and therefore it is sometimes very difficult to distinguish systolic vesicular breathing from valvular murmurs.

Keynote.		Vibrations per second.	Wave length.	Longitude of resonating tube.	
				Open.	Closed.
			cm.	cm.	cm.
	c^4	2048	16	3	6
	c^3	1024	33	8	16
	c^2	512	66	17	33. Bronchial breathing. Bronchophony.
Tympanitic percussion sound.	c^1	256	133	34	67
	c	128	266	67	133
	B	120	281	70	141
	A	108	216	79	158
	G	95	354	89	177
Normal percussion sound of the lung.	F	85	397	99	198 Vesicular breathing.
	E	80	426	100	210
	D	72	470	120	230
	C	64	530	130	260
	C_1	32	1060	260	530
	C_2	16	2120	500	1000

Some physicians have tried to exaggerate the technical refinement of percussion and auscultation to artistic virtuosity, and to draw the keenest diagnostic conclusions from its application. I have tried to show that these methods of examination are not so much the object of artistic skill, but of scientific understanding, and that we first need a solid scientific foundation and criticism. A comparison between the results of percussion and auscultation with the results of the Roentgen ray exploration or the necropsy finding often shows that we have to be very moderate in diagnostic conclusions from the physical examination, and that it does not grant so conclusive proof concerning the conditions of the inner organs as many of us have imagined.

THE BLOOD IN CANCER WITH BONE METASTASES.

BY GORDON R. WARD, M.B., B.S.LOND., M.R.C.S. ENG.

IN THE LANCET of Feb. 8th there is an article on the above subject by Dr. A. W. Harrington and Dr. A. M. Kennedy. In the course of this they refer to a somewhat similar case mentioned by myself in a communication to THE LANCET,[1] which I should probably not have written except under the stimulus of a previous case reported by Dr. Harrington and Professor J. H. Teacher. Like causes produce like effects, which is the reason for the following account of two, and perhaps three, more cases of the same nature which have since come under my observation. Two were under the care of the late Dr. Murrell in the Westminster Hospital and one under the care of Dr. Harry Campbell in the West End Hospital, to whom I am indebted for permission to refer to them. I am, unfortunately, unable to give nearly so detailed or valuable an account of these cases as Dr. Harrington has given of his, but the interest of the subject and the rather small number of cases on record appear to warrant mention of others. The cases are briefly as follows.

CASE 1.—The patient was a woman aged 41 when first under observation about two years before her death. She was then suffering from "sciatica," and her previous history showed that she had had her breast amputated for malignant disease. The pain was found to be due to a pelvic tumour, and her subsequent history was one of slowly increasing tumour formation in connexion with the bones. For a while most trouble was caused by a tumour following fracture of the hip—this occurred about the time of the second blood examination. By the time of the third examination the lower end of the same femur was affected. At the time of the last count there were in addition pains in the shoulder and spine and girdle pains, arising no doubt from growth in the latter situation. These growths were verified by X rays. For a while she had really very good health, but latterly morphia in increasing doses was necessary. She was taking 5 grains daily at the time of the last count. Four examinations of the blood were made in this case at intervals during a period of two years. It will be noted that at no time was there a grade of anæmia at all comparable to that seen in Addisonian anæmia, but that at the end signs of "bone marrow stimulation" began to appear. One may perhaps note here that the cases of Harrington and the last case here mentioned prove conclusively that the term "pernicious anæmia" often so confidently used after a blood examination corresponds to neither a pathological nor a clinical entity, and should be discarded as soon as possible. The results of the blood examinations are given in tabular form below with those of other cases.

CASE 2.—The patient, a woman, aged 44, was suffering from marked curvature of the spine, shown by the X rays to be due to a growth, and following amputation of the breast for epithelioma. Morphia was being given to the extent of 24 grains daily for pain, but the progress of the disease was comparatively slow. Only one blood examination was made.

CASE 3.—This is the case previously mentioned by me in THE LANCET, and was that of a woman who had rapid recurrence after amputation of the breast, and when examined had a large mass attached to the sternum, and no doubt involving it, as well as two smaller nodules growing from the ribs. These masses did not involve the skin in any way, and those in connexion with the ribs were on the side of the body opposite to that from which the breast had been removed. In none of the three cases at present mentioned was there severe anæmia.

CASE 4.—The patient was a man, aged 53. He was only under observation a few hours, being admitted in a dying condition. Post mortem he was found to have a large carcinoma of the stomach involving the whole circumference of the stomach, the pancreas, omentum, and glands about the cœliac axis. There were no metastases in the liver, but some cirrhosis. There was advanced atheroma of the aorta and a small aneurysm, as also thickening of the mitral and

Table showing the Results of Blood Examinations in Cases of Cancer with Bone Metastases.

—	Case 1.				Case 2.	Case 3.	Case 4.
Age	41.				44.	—	53.
Sex	Female.				Female.	Female.	Male.
Day of observation	1.	58.	300.	660.	1.	1.	1.
Red blood corpuscles	4,725,000.	4,350,000.	5,290,000.	4,780,000.	4,920,000.	4,760,000.	1,250,000.
Nucleated red cells	None.	None.	None.	23.	90.	486.	645.
Normoblasts	None.	None.	None.	—	94%	78%	89%
Megaloblasts	None.	None.	None.	—	6%	22%	11%
Megalocytes	None.	None.	Few.	Many.	Many.	—	17% [9–13μ]
Microcytes	None.	None.	Fair number.	Many.	Many.	—	7% [5–6μ]
Poikilocytes	None.	None.	Few.	Many.	Fair number.	Not marked.	Frequent.
Polychromasia	None.	None.	Frequent.	Very frequent.	Frequent.	Fair number.	Very marked.
Stippling	Slight.	Slight.	Very frequent.	Not noted.	Present.	A few.	Not noted.
Average size	Normal.	Normal.	? Small.	—	About normal.	Normal.	7·79μ.
Hæmoglobin	115%	82%	65%	66%	50%	65%	32%
Colour index	1·2.	0·942.	0·619.	0·694.	0·510.	0·68.	1·28.
White blood corpuscles	3,700.	7,500.	6,700.	5,800.	9,000.	10,800.	15,000.
Platelets	—	—	Increased.	Normal.	Normal or +.	—	Normal.
Coagulation	—	—	—	—	—	—	—
Viscosity	Normal.	Not increased.	Normal.	Diminished.	Diminished.	—	—
Iodophilia	—	—	Slight.	—	—	—	Marked.
Polymorphs	51·0	53·2	50·0	49·0	68·9	50·7	65·1
Eosinophils	0·4	2·4	4·2	0·8	0·8	0·6	1·5
Mast cells	1·8	1·2	0·6	—	0·5	—	0·2
Transitionals	2·2	0·8	7·6	7·6	2·9	10·2	8·1
Small mononuclears	42·2	41·2	34·0	41·0	23·3	31·2	21·5
Large mononuclears	2·4	1·2	3·2	0·8	2·7	4·8	2·4
Myelocytes	—	—	0·4	0·8	0·9	2·4	1·2
Anisocytosis	—	Increased.	Increased.	—	Much increased	—	5μ–13μ
Spectrum	—	—	Oxy-hæmoglobin.	—	Oxy-hæmoglobin.	—	—

[1] THE LANCET, June 18th, 1910, p. 1688.

aortic valves. There was some perisplenitis, a few pleural adhesions, hæmorrhagic spots on the knees, and altered blood in the intestines. It would appear probable that the cause of death was the hæmorrhage into the bowel which must have taken place. The growth into the stomach was ulcerated, but there was no direct evidence that the blood, which was not in large amount, came from there. The bone marrow was examined in smears, but no cancer cells were found. There were a few white areas in the marrow seen with the naked eye, but these were due to localised leucoblastic reaction. Only the marrow of the sternum was examined, a small piece being trephined for the purpose.

Sketch of small "giant cells" from the blood in Case 4.

There is thus no direct evidence of bone metastases in this case. The evidence for their existence is the difficulty of explaining the blood picture otherwise. It may well be argued that this evidence is very slight; that is admitted, but however that may be, the resemblance to other cases makes this one worthy of record. There was one rather remarkable point about this case, and that was the presence in the blood of many cells between 20μ and 30μ in diameter and apparently identical with the smaller giant cells seen in the marrow films after death. Except for the few megaloblasts and the very large number of normoblasts, the marrow was very like that of Addisonian anæmia. The one blood examination is subjoined.

In the first three cases there was obvious involvement of the marrow in metastases from primary cancerous growths. In all of these the blood picture was distinctly abnormal and similar in type, although in the first case the more marked abnormalities were of late occurrence only. The last case resembles very closely the case of Harrington and Kennedy, but there were no metastases in the small area of marrow examined. Until more cases have been collected useful comment is almost impossible, and these cases are therefore left without it. They may be of interest to those who, like myself, are keeping an eye on the literature of the subject and endeavouring to find fresh cases.

West Kensington.

FATAL HÆMATEMESIS IN A CASE OF HEPATIC SYPHILIS.

BY DONALD E. CORE, M.D. VICT., M.R.C.P. LOND.,
PHYSICIAN, ANCOATS HOSPITAL, MANCHESTER.

THE patient, a young man, aged 29, a labourer, quite suddenly while at work vomited a large quantity of blood. He was taken to the central receiving house of the Manchester Royal Infirmary, and while he was there he again vomited blood. He was sent to the infirmary at once, and when he arrived there he was found to have had another and very severe hæmatemesis in the ambulance. He was in a state of extreme collapse when he was seen at the infirmary—blanched, sweating, and pulseless, with shallow sighing respirations and a subnormal temperature. He himself was unable to give any account of his illness, but his mother, who was with him, stated that he had been under treatment at the Royal Infirmary some two years previously for vomiting of blood. She also said that there had been no history of any digestive disturbance at all, at that time or since. She was very emphatic on this point, as stress had been laid on this absence of gastro-intestinal disorder at the time of his first bleeding. From her account he had lived an exceptionally steady healthy life, and had never had any illnesses at all with the exception of these attacks of hæmatemesis.

The patient continued to bring up blood in the accident room, and was sent up to the ward at once, any examination being out of the question. He was transfused as soon as he reached the ward, and revived sufficiently to enable the pulsations in the radial artery to be felt. This improvement was immediately followed by a severe attack of bleeding, necessitating further transfusion. He then definitely improved, and complained of severe epigastric pain, more or less diffused over the whole of this region. He was given some morphia and went to sleep. He remained in this condition for some eight hours, when he suddenly became restless, and the shallow respirations returned. The pulse at the wrist failed almost immediately, and the patient died a few minutes after the onset of these symptoms. There was no appearance of any blood externally, and it was supposed that he had had a severe internal bleeding.

A post-mortem examination was performed on the day after death by Dr. W. B. Anderton.

Necropsy.—The body was that of a muscular, well-developed young man, the skin and mucous membranes showing marked pallor. Fat was present in the subcutaneous tissues in fair amount. There was no enlargement of the superficial lymph glands.

The pericardium was normal. The heart was enlarged and weighed 14½ oz. It was firm and conical in shape. The myocardium was pale and of good consistence. There were numerous patches of subendocardial hæmorrhages in the left ventricle, and especially over its septal wall. The walls of the left ventricle were thickened. There was no dilatation. The right and left auricles and the right ventricle were normal. The auriculo-ventricular, aortic, and pulmonary valves were normal. The aorta and coronary arteries were healthy.

The right and left pleuræ were normal. The right lung weighed 21½ oz., collapsed well, and showed moderate pigmentation. It was spongy and crepitant throughout, moderately congested, and exuded a small quantity of frothy serous fluid on compression. The left lung weighed 17 oz., and presented the same appearances. The air passages were normal.

Alimentary canal. There were no signs of varices or ulceration in the walls of these viscera. A fairly large amount of blood occupied the lumen of the large intestine and of the lower half of the small intestine. There was no undue distension of the bowels and no sign of blood in the stomach contents. The pancreas was normal. The omentum showed the presence of fat in normal quantity. The peritoneum was dry but otherwise normal.

The spleen was much enlarged, firm, deep purple in colour, and dry. It weighed 27½ oz. Its upper pole was firmly adherent to the diaphragm. On section there was some exaggeration of the trabeculæ. There was no iodine reaction.

The thymus gland was absent. The adrenals were normal.

The right kidney was enlarged, weighing 6½ oz. It was of flabby consistence, and the capsule was fairly adherent. The surface was smooth except along the convex border, where it was distinctly granular. The cortex was thickened and rather pale, with well-marked reddish streaking. The medulla was a deep red. There was no iodine reaction. The urinary passages, genital glands, genital ducts, and external genitals were normal.

The liver weighed 84 oz. It was enlarged as a whole, much altered in contour and distorted in shape. The consistence generally was very firm. The right lobe was almost globular. The left lobe was much thicker and more rounded than normal, and presented a distinct large boss on its under surface. On section this lobe presented several large, dry, yellow, cheesy areas, some of the area of a shilling, and well encapsuled in a thick grey fibrous capsule. The capsules of these gummata fused with each other and sent forth long and broad strands, dividing the substance of the liver up into large areas of liver tissue of a homogeneous, pale brownish-yellow colour. The anterior part of this lobe was, however, of a still paler colour, presenting a fine mottling on section and being extremely tough. No large gummata were found in the right lobe, which was of a slightly mottled brownish-yellow colour. In its substance could be seen thick strands of fibrous tissue, but these were not as well-defined as those in the left lobe. The portion of the liver that united the two lobes appeared to be fairly normal. There was no iodine reaction. There were much thickening and opacity of the fibrous capsule, with almost inseparable adhesions to the diaphragm. The surface of the liver in parts was finely granular, especially in the right lobe.

Microscopical appearances.—Liver: Gumma of typical appearance and surrounded by a thick fibrous capsule. The liver tissue in the neighbourhood showed very marked cirrhosis of a very cellular nature and of pericellular distribution (infiltration of the lobules) and disorganisation of the lobules. The arterioles showed much thickening of their walls. Heart: Fine fatty change was abundant in some of the fibres. There was no overgrowth of the connective tissue. Kidneys: Numerous patches, both superficial and deep, of cellular necrosis. The renal parenchyma was atrophied. The glomeruli were normal.

The above is an example of an important group of cases of hepatic syphilis, where the disease resembles ordinary cirrhosis of the liver. The symptoms are usually those of pain in the right hypochondrium, with more or less gastric disturbances, occasional hæmatemesis, and ascites. Jaundice is rare in these cases of hepatic cirrhosis, and according to Hale White so also is ascites. On examination of the abdomen the liver and spleen are found to be enlarged and firm. Pain generally is a prominent symptom, owing to the perihepatitis and perisplenitis, and although in the case recorded above there appears to have been a remarkable absence of this symptom, yet from the appearance post mortem of the liver and spleen, which were unduly adherent to the diaphragm, some pain almost certainly must have been present at one time or another.

The diagnosis of these cases rests on the preponderance of syphilis over alcohol in the history, and the relief of symptoms by antisyphilitic treatment. Rolleston has pointed out that the routine treatment of ordinary alcoholic cirrhosis consists of potassium iodide, and that cases recorded of cure in this disease are, in all probability, cases of syphilis of the liver.

Two further points of interest in the above case are,

firstly, the absence of any blood in the stomach contents any upper parts of the small intestine, and the absence of and bleeding point to be made out post mortem. Death in this case was certainly due to acute cerebral anæmia, and it is probable that the patient made some sudden movement or exerted himself in some way so as to cause the acute symptoms that immediately preceded death without there being any fresh bleeding. The absence of any apparent breach in the gastric mucosa or enlarged œsophageal veins is most likely due to the collapse that must have occurred in any such veins that may have existed; it is a matter of common knowledge that it is often exceedingly difficult to demonstrate post mortem œsophageal varices in subjects that have died from sudden and profuse hæmatemesis owing to the empty and collapsed condition.

I am indebted to Dr. R. T. Williamson for permission to record this case and to Dr. Anderton for his notes on the post-mortem examination.

Manchester.

CASE OF SUBCORTICAL CEREBRAL TUMOUR,

TUBERCULOUS IN NATURE, REMOVED BY OPERATION; RECOVERY.

BY GEORGE HALL, M.D. LOND., M.R.C.P. LOND.,
ASSISTANT PHYSICIAN, ROYAL VICTORIA INFIRMARY, NEWCASTLE-ON-TYNE;
AND
H. BRUNTON ANGUS, M.S. DURH., F.R.C.S. ENG.,
SURGEON, ROYAL VICTORIA INFIRMARY.

THE case, the notes of which are published below, seems to us to possess features warranting its publication. It illustrates the difficulty of making a complete topical diagnosis of a cerebral tumour; the difficulty of deciding whether to make an attempt to find the tumour by operation, or whether to do merely a decompressive operation; and it shows the final removal of an encapsuled tumour as the result of a happy accident.

The patient was a miner with a negative history of specific disease, and with a general good history save for an attack of pneumonia some years before. The family history was negative. Until admission he had been engaged in active work as a miner. In June, 1911, he was admitted to the Royal Victoria Infirmary, Newcastle-on-Tyne, complaining of intense frontal headache on the left side, and also of two or three attacks which he called "fits," in which he did not lose consciousness, but noted some "tightening and jerking" in his right leg, where there was also at these times a sensation of "tingling." Observation for several weeks produced no result. He had no attacks and no physical signs. Other sources of headache, nasal or ophthalmic, were excluded. His optic discs were normal.

In October, 1911, the patient was re-admitted with a more definite history of fits. His headache persisted as before, but was less intense. The fits he now described as follows: The tingling sensation began about his right ankle and calf muscles, followed by a tightening and then a jerking in the leg. The same condition then appeared in the right arm and the right face, so that he could not speak. After an interval of doubtful length he said the attack gradually passed off and left him with some little temporary weakness of the right arm and leg. He said that on two occasions after the movements had reached his arm and face he lost consciousness, the whole attack lasting 10 or 15 minutes. Observations during his period of unconsciousness were only made by friends and are not helpful. Again on examination there were no symptoms which pointed to gross disease. There was no lack of power on the right side, and the reflexes were normal in type and degree. There was not sufficient evidence to show the cause of the Jacksonian attacks, and he was again discharged. Iodide treatment had been well pushed during the four months previous, up to 150 grains daily.

The patient was not seen again until April, 1912, when his medical man sent him up again for examination. The man said that he had had some of the smaller attacks and two of the larger in which he lost consciousness. He had had no vomiting whatsoever throughout his illness. We found now that there was some slight weakness in the right arm and leg, but not sufficient to cause any characteristic gait or posture. The reflexes on the right side were slightly increased, and there occasionally was an extensor plantar response on the right side. Sensation to light touches was retained over the right arm and leg, but over the latter did not appear so keen as on the left side. Topognosis was not so accurate about the right leg as on the left side, but the results were variable and irregular. Stereognosis about the hand and leg retained. On ophthalmoscopic examination we found distinct signs of neuritis, greater in the left eye where the edge of the disc was invisible as such, the physiological cup filled in, the vessels buried here and there and dipping abruptly from the position of the disc on to the retina. The extent of the swelling above the retina was 2 D. A similar condition, but to a less degree, was present in the right eye. The fields of vision by the perimeter were practically normal. He had noticed that on standing up suddenly his left eye seemed to go blind for some few seconds.

Inasmuch as well-pushed antispecific treatment had failed it was decided to trephine. A diagnosis of subcortical tumour on the left side beneath the sensori-motor area was made. It was decided to trephine over that area, partly to "decompress," but keeping in mind the possibility of a tumour which might be removable. The moderate degree of accuracy in the localisation compelled us to take this course,

From a water-colour sketch of the specimen. (Natural size.)

rather than do a decompressive operation in a "silent" area, in spite of the risks of resultant hemiplegia and aphasia (see later), all of which were explained to the patient.

Operation.—April 19th, 1912: A flap of scalp was turned down, and a large portion of bone was removed over the motor area. April 26th: The second stage was undertaken and the dura was incised, the brain substance bulging to a marked degree. There was nothing visible on the surface and the cortex was not incised. The exact field of the operation was mapped out by electrical stimulation of the cortex. In the course of the operation the superior longitudinal sinus was accidentally wounded, and the copious bleeding could only be arrested by gauze packing. Immediately after the operation the patient became completely paralysed in the right arm, leg, and face, with complete articulatory loss of speech.

May 1st: An attempt was made under anæsthesia to remove the gauze packing, but as the bleeding continued the wound was again plugged. May 8th: The patient was again anæsthetised, and the gauze packing was removed on this occasion without bleeding. The brain substance was protruding and lacerated on the surface. Appearing below the lacerated edges was a white substance which was found to be free; it was lifted out and found to be an encapsuled tumour. (See figure.) The wound was closed as much as possible and left to heal, which it did gradually with loss of some brain substance.

The subsequent history of the patient from a surgical point of view was uneventful. His hemiplegia and speech difficulty rapidly showed some improvement, the latter being complete. The weakness of the arm and leg greatly disappeared, and when discharged the patient could walk perfectly well, and also carry out all ordinary movements with the right hand and arm, but with less power than on the left side. He complained of difficulty in appreciating

the objects grasped in the right hand, but on the whole the hemiplegia largely passed off in a most satisfactory manner, considering the damage done to the cortex and the underlying brain tissue. He had a few fits during his convalescence.

The tumour is ovoid in shape, about 1¼ in. in its longer axis and 1 in. in its shorter diameter, capsulated, and showing externally a shaggy reddish surface. On section there is seen beneath the shaggy surface a hyperæmic zone about ⅛ in. in cross section; within this the general bulk of the tumour is yellowish-white in colour and firm in consistence. To the naked eye it appears gummatous in nature. (See figure.)

Microscopically, Professor Stuart McDonald says, the condition is apparently one of tuberculous tumour; in the hyperæmic zone of granulation tissue around the central mass are numerous tubercular foci and giant cell systems. The central mass is undergoing caseous degeneration.

Condition on Jan. 18th, 1913.—The patient is still keeping well and has had no more fits since leaving hospital. The right arm and leg remain impaired, but are slowly improving.

March 3rd, 1913.—The patient came up looking very well. The right arm and leg have become quite strong, though there is still some impairment. Five weeks ago he had a fit, and has had three since. The scalp was depressed and adherent over the trephined area, and this may account for the persistence of the fits.

Newcastle-on-Tyne.

THE TREATMENT OF PULMONARY TUBERCULOSIS.

BY NOEL DEAN BARDSWELL, M.D. EDIN., M.R.C.P. LOND. & EDIN.,

MEDICAL SUPERINTENDENT OF THE KING EDWARD VII. SANATORIUM, MIDHURST, SUSSEX.

I.—SOME OBSERVATIONS UPON THE RESULTS OF FOUR YEARS' WORK AT THE KING EDWARD VII. SANATORIUM.

JULY, 1911, brought to a close the fifth year's work of the King Edward VII. Sanatorium. Throughout these five years the treatment carried out at the Sanatorium was constant, on the orthodox lines of what is generally spoken of as "the sanatorium treatment." Throughout the same period the patients admitted for treatment, taken as a whole, also remained remarkably constant in respect of age, clinical condition, sex, social condition, length of stay, &c. In consequence of the consistency of these various factors the immediate results of treatment, as shown by the statistics of the condition of patients on discharge, have been wonderfully uniform year by year. At the present time, then, at a distance of some 18 months from their completion, we are able to take a survey of five years of uniform work, carried out on the recognised principles of sanatorium treatment. A critical review of this work should furnish reliable data upon which to form an opinion as to how far the treatment as carried out at the Sanatorium has proved a success or a failure. My reason for thus drawing a line across the work of the Sanatorium at July, 1911, is readily explained. During the year beginning July, 1911, the conservative nature of the Sanatorium routine was materially modified by the adoption of tuberculin treatment. Commencing somewhat tentatively, the proportion of patients in residence treated with tuberculin steadily increased, and for a considerable time now some 75 per cent. of the 100 patients in the Sanatorium have been receiving tuberculin. Apart from the use of tuberculin, the conditions at the Sanatorium since July, 1911, in respect of the various factors mentioned above—e.g., class of patient admitted, general lines of treatment, &c.—have continued to be as constant as in the previous years. It is clear, then, that should there be any material change in the results obtained at the Sanatorium subsequently to this date, the change will be due to the new element—tuberculin. The first five years, which I may term the pre-tuberculin years, in short, give us a most valuable control with which in due course to compare the results of a tuberculin era. It is my present purpose to try to epitomise the results of this pre-tuberculin period into some concise and definite shape which may serve as a standard for comparison.

Methods of Comparing the Value of Various Forms of Treatment of Pulmonary Tuberculosis.

In making the epitome, or review, it is necessary to bear in mind the particular purpose for which it is intended and to concentrate attention upon the features which are likely to be of most service. The usually adopted method of detailing in statistical form the clinical condition of a number of patients before and immediately subsequently to any particular form of treatment has its use, but is far from being satisfactory. It is unsatisfactory inasmuch as statistics very often fail to furnish the reader with uncontrovertible evidence that all the cases treated were actually suffering from pulmonary tuberculosis, and again in that such expressions as "improved," &c., are of but small value as scientific evidence. In statements *re* diagnosis and results of treatment there must needs be so much of the personal equation. Evidence tendered in support of any method of treatment, if it is to carry conviction, must be made up of facts which can readily be verified.

With respect to pulmonary tuberculosis, the position is really a fairly simple one, since the test of efficacy of any form of treatment is so obvious. We have only to be absolutely sure that (1) every patient treated was, beyond all manner of doubt, suffering from pulmonary tuberculosis, and to know (2) what has become of these same patients, say two, five, and ten years later. With these data there is small scope for fallacy. For we have facts, not mere expressions of opinion.

Diagnosis.—With respect to diagnosis, everyone recognises that it must be early. Unfortunately, looking at the matter from the point of view of the statistician, early diagnosis, at its best, means the recognition of the disease in the absence of the tubercle bacillus. It means the making of a positive diagnosis upon an association of various signs and symptoms, the recognition of which and, still more, the interpretation of which are matters of individual skill and judgment. The personal equation therefore plays a large part. Signs and symptoms which amply justify the individual physican in making a positive diagnosis and treating the disease as certainly existing are not sufficient evidence when transferred to statistics. The inclusion of these unproven cases amongst the records of other cases, unquestionably tuberculous, exposes the author to the criticism that it is by no means clear that all his cases were suffering from pulmonary tuberculosis—a criticism which allows of no very adequate retort.

It is best, then, to face the position and to admit that, statistically, there is only one certain test of the existence of pulmonary tuberculosis—namely, the presence of tubercle bacilli in the sputum. I would suggest, then, that any method of classifying patients for statistical purposes should begin by dividing them into two groups—(*a*) those with tubercle bacilli, and (*b*) those without tubercle bacilli. When dealing with large numbers the group of patients without tubercle bacilli will, in fact, include a great many cases beyond all manner of doubt tuberculous, although lacking the positive proof. The percentage of such cases, however, varies with different observers, hence the necessity of one common denominator—the presence of the tubercle bacillus. It is clearly a lesser evil to exclude some definite cases than to record a proportion of non-tuberculous people as having been benefited or cured by some method of treatment. The numerous methods of classification that exist are sufficient proof that no method is or can be entirely satisfactory. All said and done, the various methods do but show that there are three main types of consumptive: (1) the slight case, Group I.; (2) the moderately bad case, Group II.; and (3) the very bad case, Group III. Exactly how one describes these three types is of little moment, so long as they are clearly defined. At the King Edward VII. Sanatorium the cases are classified into three groups by the Turban-Gerhardt method, as recommended by the International Tuberculosis Committee.[1]

The ultimate results of treatment.—There is little to be said on this head. Information as to the condition of patients subsequent to the completion of a course of treatment is often troublesome to obtain. The King Edward VII.

[1] (1) Disease of slight severity, limited to small areas of one lobe, that, for instance, in case of infection of both apices, does not extend beyond the spine of scapula and the clavicle, or in case of affection of one apex, frontal, beyond the second rib. (2) Disease of slight severity, more extensive than (1), but affecting, at most, the volume of one lobe—or severe disease, extending, at most, to the volume of one half lobe. (3) All cases extending beyond (2), and all such with considerable cavities. By disease of slight severity is to be understood: disseminated foci manifested by slight dulness, unclear rough or weak vesicular, vesiculo-bronchial, or broncho-vesicular breathing and fine and medium râles. By severe disease: compact infiltration recognised by great dulness, very weak (indeterminate) broncho-vesicular, or bronchial indefinite breathing, with or without râles.

Sanatorium draws its patients from all parts of the United Kingdom, and it is only possible to keep in touch with them by means of the post. An annual census is taken, but, with every possible care, the annual returns are incomplete. Municipal dispensaries, which supply the needs of a definite area, should experience considerably less difficulty in tracing the after-histories of their patients.

Immediate results of treatment.—I should perhaps refer to immediate results. As evidence of the usefulness of any method of treatment, records of the immediate benefit received by consumptives, given in terms of "Improved," "Much improved," &c., are not of any great value. In practice, the presence or absence of tubercle bacilli and the amount of exercise a patient can take are the most useful points on which to have information. In sanatoriums it is but rarely that a patient, even if far advanced, fails to improve; indeed, a method of treatment which fails to benefit, even if only temporarily, the very large majority of cases treated by it needs no further investigation. Thus it is that statistics of immediate results have but small significance compared with similar records of ultimate results.

Records of the King Edward VII. Sanatorium.

The data reviewed in this paper consist of the records of 1082 patients who were discharged during the period July 1st, 1907, to July 1st, 1911. (I have omitted the year 1906–07, as during a part of this, the first, year the work of the Sanatorium was not completely organised.) The after-histories of these 1082 patients, then, cover a period ranging from a maximum of 5 years and 4 months to a minimum of 16 months subsequent to their discharge from the Sanatorium—a long enough period to give the returns a distinct value.

Diagnosis.—These 1082 patients were sent by medical practitioners as definite cases of pulmonary tuberculosis. The diagnosis was not confirmed by ourselves in 52 cases, or 4·8 per cent. of the total admissions; in fact, to be more explicit, we definitely excluded pulmonary tuberculosis in 52 cases. These cases are, of course, excluded from our annual returns. The after-histories of these 52 patients favour the correctness of our opinion. Not one of them as yet has shown any sign or symptom of pulmonary tuberculosis. There have been three deaths—from malignant disease of mediastinum, cancer of larynx, and appendicitis respectively. That nearly 5 per cent. of patients sent in as pulmonary tuberculosis were not suffering from the disease is evidence of the difficulty of diagnosis. It is proof that the practitioner sometimes errs on the side of safety, and proof also that those are justified, who are sceptical of a positive diagnosis on paper, in the absence of tubercle bacilli. It would be interesting to know the experience of dispensaries on this point.

The next feature of interest concerning diagnosis is, that of the 1030 cases in which the diagnosis was confirmed by ourselves we found the tubercle bacillus in 82·4 per cent., leaving 17·5 per cent. of cases in whom the positive diagnosis was not thus confirmed. Compared with dispensary work, I imagine the figure of 82·4 per cent. of cases with tubercle bacilli is a high one—e.g., in THE LANCET of Oct. 5th, 1912, Dr. James Fairley states that of 244 cases of pulmonary tuberculosis at that date attending the dispensary at Portsmouth, tubercle bacilli had been found in 39·4 per cent. only. I should add that the sputum examinations at the Sanatorium are made with great care.

Our data, then, consist of 1030 cases diagnosed as pulmonary tuberculosis, of which 82·4 per cent. had tubercle bacilli in the sputum and 17·5 per cent. had no tubercle bacilli so far as we could determine. Of this number, 110 have been lost sight of (a good many of these have been traced up to last year), and the remaining 920 have been traced up to the present date. To simplify matters, I shall not take into account these 110 patients who have been lost sight of, but deal only with the 920 whose after-histories are complete. This total of 920 patients is divided into two main classes—(1) those in whom tubercle bacilli were found, 764 in number; and (2) those in whom tubercle bacilli were not found, 156 in number.

Considering first the 764 cases in whom tubercle bacilli were found: Of this number, 57·1 per cent. are known to be well or alive, and 42·8 per cent. are known to be dead. If we divide these 764 cases into the customary three groups, I., Early, II., Moderately advanced, III., Advanced, the following is the result. Of 183 cases in Group I., 153 (83·6 per cent.) are well or alive; 30 (16·3 per cent.) are dead. Of 357 cases in Group II., 220 (61·6 per cent.) are well or alive; 137 (38·3 per cent.) are dead. Of 224 cases in Group III., 64 (28·5 per cent.) are well or alive; 160 (71·4 per cent.) are dead.

The records of the cases in whom no tubercle bacilli were found are very different reading. Of the 156 in this group, 89·1 per cent. are well or alive, and 10·9 per cent. are dead. Two of the deaths were due to tuberculous meningitis. Of these 156 patients, 18 per cent. have, since their discharge, again shown symptoms of pulmonary tuberculosis.

To summarise these records of the 920 patients: Their condition at the present time, after a lapse of from a minimum of 1 year and 4 months to a maximum of 5 years and 4 months, since discharge, is as follows: (*a*) Those in whom no tubercle bacilli were found (156), 89·1 per cent. are well or alive, and 10·9 per cent. are dead. (*b*) Those in whom tubercle bacilli were found (764), Group I. (183), 83·6 per cent. are well or alive, and 16·3 per cent. are dead. Group II. (357), 61·6 per cent. are well or alive, and 38·3 per cent. are dead. Group III. (224), 28·5 per cent. are well or alive, and 71·4 per cent. are dead. Such are the bald facts. They represent the degree of success which has attended the work of the Sanatorium up to July, 1911, as judged by the only reliable test—the test of time.

To comment briefly on these data: The very favourable results obtained in the patients without tubercle bacilli is noticeable. The exact significance of the figures depends on our attitude towards patients without tubercle bacilli. Are we justified in holding that these cases have been rescued from tuberculosis by the treatment they received, or is it that a large number of them were no worse than many who receive no treatment at all and get well? That they all had evidence of pulmonary tuberculosis I had no doubt, nor had my colleagues, but I must confess to an inability to differentiate with any certainty in many instances between a recent and quiescent focus of disease and a lesion that is probably obsolete and of no clinical significance. It is only natural, perhaps, that I should lean to the view that a considerable number of these patients have been cured of incipient disease. It is clear, however, that, granted the correctness of the diagnosis, this class of case is very amenable to cure, and does not furnish at all a severe test to any therapeutic measure.

But when we come to consider the 764 patients, all of whom had tubercle bacilli, we are on surer ground. There can be no possible doubt as to the existence of the disease. The records of the 183 early cases (Group I.) with tubercle bacilli present, showing 16·3 per cent. of deaths and 83·6 per cent. well or alive, compare very favourably indeed with the records of the class just considered, in which no tubercle bacilli were ever found. The difference amounts only to some 5 per cent. more deaths and some 5 per cent. fewer "Well or alive." The physical signs and symptoms were very similar in both sets of patients. Other things being equal, then, the presence of tubercle bacilli has a somewhat unfavourable significance. None the less, the average patient with early disease and with tubercle bacilli present does well under sanatorium treatment. Many cases of this nature doubtless get well without anything more active in the way of treatment than their removal from an unfavourable environment, a method of cure which sanatoriums accomplish very effectually. There can be no doubt, too, as to the value to the patients of the practical lessons in hygienic living as taught in well-managed sanatoriums. Education and cure go hand in hand.

Group III., including 224 cases of markedly advanced disease, calls for little or no comment, except perhaps on the score that these advanced cases continue to form a considerable proportion of admissions to sanatoriums. 28·5 per cent. well or alive after some years represents a measure of success, some prolongation of life and a few apparently complete recoveries, but the mortality of 71·4 per cent. shows how little permanent benefit is to be expected from sanatoriums in this class of case.

I have left Group II. to the last, as being the most interesting. The type of case falling into this group is the one most commonly met with. No longer a case of early and very limited disease, a patient of this kind, with perhaps two or three lobes affected, usually still retains unimpaired his general condition and recuperative power. If only the onward march of the lung disease can be stayed and

arrested, complete restoration to health and capacity for work is still to be looked for with confidence. Failing efficient arrest, the lapse into a hopeless condition is inevitable.

It is this type of pronounced, but still recoverable, disease that provides the best test for any method of treatment. The bacillus-free case and the very early case even with tubercle bacilli present may get well without any treatment, and probably often does so. Spontaneous cure, however, in a patient in whom the disease has obtained a good hold cannot be common. Sanatorium treatment alone, as shown by our figures, does not do all we could wish for in these cases. A mortality of 38 per cent. in so short a period as 1¼ years to 5¼ years is unpleasantly high, even if 61 per cent. well or alive after a like interval gives us some substantial measure of encouragement. To judge by other after-histories which I have followed up for ten years or more, we may expect a mortality of some 50 per cent. in this group at the end of seven years, subsequent to discharge, after which the rate of mortality should drop considerably. It is this type, the type which represents the average consumptive, that requires something more than sanatoriums can give.

The Significance of the Disappearance of Tubercle Bacilli from the Sputum.

There is nothing fresh in the observation that patients who lose their tubercle bacilli as the result of treatment have a more favourable outlook than those who, though immensely improved, do not lose them. None the less, the results of our observations on this particular point are more striking than we had expected. Of the 764 patients who on admission to the Sanatorium had tubercle bacilli in their sputum, 158 only, or 20·6 per cent., lost them before discharge. The small proportion of patients who lose their tubercle bacilli after an average of some four months' sanatorium treatment is significant. It means that but few, apart from the very early cases, can hope to leave a sanatorium apparently cured. It is to the patient's interest that he knows this. What it means to the consumptive to lose his bacilli is shown by the after-histories of the 158 patients who were fortunate enough to do so. Of 158 patients who lost their tubercle bacilli before discharge, 84·1 per cent. are well or alive and 15·8 per cent. are dead. As a comparison the following are the after-history records of the remaining 606 patients who did not lose their bacilli. Of 606 patients discharged with tubercle bacilli still present, 50·1 per cent. are well or alive and 49·8 per cent. are dead. It is very encouraging also to note that the patients with well-marked disease (included in Group II.) who lose their tubercle bacilli have quite as good a prognosis as the slight cases (Group I.) who lose their bacilli. Our records in this respect are as follows. Of 79 cases in Group I. who lost their tubercle bacilli, 87·3 per cent. are well or alive, and of 64 cases in Group II. who lost their bacilli no less than 90·6 per cent. are well or alive. Only a few cases of very advanced disease lost their tubercle bacilli, but of these, 15 in number, 40 per cent. are in fair or good health at the present time.

The disappearance of tubercle bacilli from the sputum is, then, a factor of the highest importance from the point of view of individual prognosis, and in the interest of the public health the advantage of having sputum cleared of bacilli is clearly no less great. In the treatment of pulmonary tuberculosis this should be our aim. We should be satisfied with nothing less. Further, to judge by our results, we have, in the persistence of, or in the disappearance of, tubercle bacilli, evidence of the greatest significance as to the value of any method of treatment.

In the opinion of some physicians, notably Löwenstein, Bandelier and Roepke, and Curschmann, the combination of sanatorium treatment with tuberculin treatment is very much more effective in clearing the sputum of tubercle bacilli than sanatorium treatment alone. This statement, coming as it does from experienced observers, carries considerable weight, and in itself calls for a thorough and systematic trial of tuberculin in sanatoriums. The confirmation of these observations is clearly a matter of the very highest importance.

Conclusions.

In making this survey I have tended perhaps somewhat to belittle the value of sanatoriums, in that I have dwelt more upon what they fail to do than on what they actually accomplish. My object has been to indicate in what directions we may look for material improvement in the future, as compared with the past, if tuberculin is indeed a potent additional factor for good.

What we hope to find in the near future is that a higher proportion of patients is being discharged free of tubercle bacilli, and later on that the mortality year by year is sensibly falling. Our record for "T.B. not found" cases of 89·1 per cent. well or alive after some years cannot be very much improved upon, but the record for early cases of 83·6 per cent. well or alive gives some scope for improvement. However, it is the results obtained in the treatment of the somewhat more advanced cases, the big class classified in Group II. by most sanatorium physicians, to which we should chiefly look for the information we are seeking as to the value of tuberculin.

There is one other point which is pertinent to my subject. Supposing that dispensaries prove the truth of the contention, that with the aid of tuberculin early cases of pulmonary tuberculosis can be as certainly benefited in their own homes or whilst at their work, as by sanatorium treatment, sanatoriums will have seriously to consider the advisability of refusing to admit the very cases which, at present, they endeavour to admit to the exclusion of all others. This sounds very revolutionary. Still, it is logical enough, granted the truth of the premises. Sanatoriums could then concentrate upon the less favourable cases, for whom, as I have previously noted, something more is required—longer treatment certainly.

An increasing number of dispensaries will ere long be contributing their quota of evidence on this very important subject. It is earnestly to be hoped that the records of these institutions will be kept and published upon some common basis, that particular note be made as to the presence or absence of tubercle bacilli in the cases of pulmonary tuberculosis treated, and that every effort be made systematically to obtain after-histories. The value of tuberculin as an addition to sanatorium treatment is a question which falls to the lot of the King Edward VII. Sanatorium and similar institutions. Our answer is now in the making.

Appendix.

I add as an appendix detailed records of the patients dealt with, set out in the German method, showing all the after-history results in successive years. For the classifying of ultimate results the German method is the only one which is entirely satisfactory.

TABLE I.—*The Condition in each Successive Year Subsequent to their Discharge of 1030 Patients Diagnosed as Pulmonary Tuberculosis, of whom 849 had Tubercle Bacilli in their Sputum and 181 had not.*

Year of discharge.	Number discharged.	Number well or alive in each successive year after discharge.				Number dead in 1912.	Number lost sight of in 1912.
		1909.	1910.	1911.	1912.		
Group I.							
1907–08	79	72	71	65	54	13	12
1908–09	72	—	68	56	50	11	11
1909–10	90	—	—	83	72	9	9
1910–11	89	—	—	—	76	4	9
Group II.							
1907–08	108	86	75	69	57	36	15
1908–09	122	—	104	76	59	45	18
1909–10	111	—	—	80	69	32	10
1910–11	115	—	—	—	72	34	9
Group III.							
1907–08	70	38	29	23	19	48	3
1908–09	84	—	41	31	20	59	5
1909–10	50	—	—	27	16	30	4
1910–11	40	—	—	—	12	23	5
All Cases Considered Together.							
1907–08	257	196	175	157	130	97	30
1908–09	278	—	213	163	129	115	34
1909–10	251	—	—	190	157	71	23
1910–11	244	—	—	—	160	61	23

TABLE II.—*The Condition in each Successive Year Subsequent to their Discharge of 181 Patients Diagnosed as Pulmonary Tuberculosis in whose Sputum Tubercle Bacilli were Never Found.*

Year of discharge.	Number discharged.	Number well or alive in each successive year after discharge.				Number dead in 1912.	Number lost sight of in 1912.
		1909.	1910.	1911.	1912.		
Group I.							
1907-08	28	28	28	27	21	1	6
1908-09	30	—	29	22	21	3	6
1909-10	34	—	—	33	30	2	2
1910-11	30	—	—	—	27	1	2
Group II.							
1907-08	17	16	14	14	13	3	1
1908-09	21	—	19	15	11	5	5
1909-10	11	—	—	9	8	2	1
1910-11	6	—	—	—	5	0	1
Group III.							
1907-08	2	2	2	2	2	0	0
1908-09	0	—	0	0	0	0	0
1909-10	2	—	—	2	1	0	1
1910-11	0	—	—	—	0	0	0
All Cases Considered Together.							
1907-08	47	46	44	43	36	4	7
1908-09	51	—	48	37	32	8	11
1909-10	47	—	—	44	39	4	4
1910-11	36	—	—	—	32	1	3

TABLE III.—*The Condition in each Successive Year Subsequent to their Discharge of 849 Patients who, on Admission, had Tubercle Bacilli in their Sputum.*

Year of discharge.	Number discharged.	Number well or alive in each successive year after discharge.				Number dead in 1912.	Number lost sight of in 1912.
		1909.	1910.	1911.	1912.		
Group I.							
1907-08	51	44	43	38	33	12	6
1908-09	42	—	39	34	29	8	5
1909-10	56	—	—	50	42	7	7
1910-11	59	—	—	—	49	3	7
Group II.							
1907-08	91	70	61	55	44	33	14
1908-09	101	—	85	61	48	40	13
1909-10	100	—	—	71	61	30	9
1910-11	109	—	—	—	67	34	8
Group III.							
1907-08	68	36	27	21	17	48	3
1908-09	84	—	41	31	20	59	5
1909-10	48	—	—	25	15	30	3
1910-11	40	—	—	—	12	23	5
All Cases Considered Together.							
1907-08	210	150	131	114	94	93	23
1908-09	227	—	165	126	97	107	23
1909-10	204	—	—	146	118	67	19
1910-11	208	—	—	—	128	60	20

TABLE IV.—*The Condition in each Successive Year Subsequent to their Discharge of 178 Patients Admitted with Tubercle Bacilli in their Sputum and Discharged with Sputum Free of Bacilli.*

Year of discharge.	Number discharged.	Number well or alive in each successive year after discharge.				Number dead in 1912.	Number lost sight of in 1912.
		1909.	1910	1911.	1912.		
Group I.							
1907-08	20	18	17	15	14	6	0
1908-09	24	—	24	21	18	2	4
1909-10	24	—	—	22	18	2	4
1910-11	22	—	—	—	19	0	3
Group II.							
1907-08	13	12	11	10	10	2	1
1908-09	22	—	21	17	14	4	4
1909-10	18	—	—	18	17	0	1
1910-11	18	—	—	—	17	0	1
Group III.							
1907-08	12	7	5	4	4	8	0
1908-09	4	—	3	3	2	1	1
1909-10	0	—	—	0	0	0	0
1910-11	1	—	—	—	0	0	1
All Cases Considered Together.							
1907-08	45	37	33	29	28	16	1
1908-09	50	—	48	41	34	7	9
1909-10	42	—	—	40	35	2	5
1910-11	41	—	—	—	36	0	5

TABLE V.—*The Condition in each Successive Year Subsequent to their Discharge of 671 Patients Admitted with Tubercle Bacilli in their Sputum and Discharged with Tubercle Bacilli still in their Sputum.*

Year of discharge.	Number discharged.	Number well or alive in each successive year after discharge.				Number dead in 1912.	Number lost sight of in 1912.
		1909.	1910.	1911.	1912.		
Group I.							
1907-08	31	26	26	23	19	6	6
1908-09	18	—	15	13	11	6	1
1909-10	32	—	—	28	24	5	3
1910-11	37	—	—	—	30	3	4
Group II.							
1907-08	78	58	50	45	34	31	13
1908-09	79	—	64	44	34	36	9
1909-10	82	—	—	53	44	30	8
1910-11	91	—	—	—	50	34	7
Group III.							
1907-08	56	29	22	17	13	40	3
1908-09	80	—	38	28	18	58	4
1909-10	48	—	—	25	15	30	3
1910-11	39	—	—	—	12	23	4
All Cases Considered Together.							
1907-08	165	113	98	85	66	77	22
1908-09	177	—	117	85	63	100	14
1909-10	162	—	—	106	83	65	14
1910-11	167	—	—	—	92	60	15

To be continued.)

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF ANEURYSM OF THE DESCENDING THORACIC AORTA PRESENTING SOME UNUSUAL FEATURES.

BY REES PHILLIPS, M.D., B.S. LOND.,
ASSISTANT MEDICAL OFFICER, LAMBETH INFIRMARY.

THE points of interest in this case appear to be: (1) The absence of manifest physical signs during a long course of severe symptoms (it was only in the last few weeks of life that a diagnosis was established); and (2) the unusual direction that the aneurysmal sac took—into the base of the *right* chest.

The patient, a male aged 43 years, was first admitted to Lambeth Infirmary in July, 1911, complaining of periodic attacks of pain resembling right renal colic. There was a history of similar attacks for two years previously. Physical examination and examination of the urine were negative. He remained in the infirmary a week, and went out "improved"; but the nature of his pains was undetermined.

The patient returned to the infirmary on Jan. 31st, 1912, and remained until Feb. 15th. He had several attacks of apparently agonising pain radiating from the right hypochondrium to the right groin while in the infirmary, but again a careful examination of chest, abdomen, and urine failed to throw light on the condition. There were no signs of locomotor ataxy, and no history of syphilis was elicited.

On May 21st the patient came to the infirmary again, and remained until July 18th. His symptoms were as before, but his general appearance had deteriorated. His skin was getting pigmented, almost suggesting Addison's disease. It was now noticed that the apex beat of the heart was a little outside the usual position, and there was a heaving impulse around the nipple. A faint systolic mitral bruit was heard.

On July 23rd the patient was again admitted to the infirmary with similar symptoms and he remained until August 29th. On admission it was noticed that his right kidney appeared palpable. The urine was normal. On July 25th he developed signs and symptoms of right basal pleurisy with some blood-stained expectoration. It was noticed that he was getting sallower, with general loss of muscular tone. The systolic blood pressure on July 27th was 130 mm. Hg. The symptoms improved and the patient was discharged on August 29th, but with some dulness at the right base.

The patient was finally admitted on Nov. 7th, 1912. His general condition appeared worse. He was sallow, flabby, and rather wasted. There was still some dulness, with deficient breath sound at the right base, and the heart apex beat was outside the normal position, but otherwise nothing was made out to account for the severe pains that he still suffered periodically. I heard that he had been in Middlesex Hospital in the March previous, and Dr. K. D. Marriner, the medical registrar, kindly informed me that a positive Wassermann reaction had been given, and that the case had been treated for specific myocarditis. The patient continued to suffer great pain in the loin, but no change was observed in the physical signs until December, when a heaving pulsation was noticed at the right base. It was obviously an aneurysm, either of the aorta or of the right renal artery. No pulsation was felt in the abdomen.

Laparotomy was performed on Dec. 17th by Mr. Wilfred Trotter, and the condition was found to be an aneurysm of the thoracic aorta bulging the diaphragm downwards and extending behind the liver. The aneurysm increased rapidly in size and formed a striking pulsating swelling in the right base. The patient became gradually weaker and died on Jan. 10th, 1913.

Post mortem a limited examination was made. The heart was apparently healthy, not enlarged, but displaced. The right pleural cavity contained much clear sero-sanguineous fluid, and there were extensive fine adhesions between the right lung and the pleura. The whole extent of the aorta showed diseased intima, which was extensively marked with brittle plaques. An enormous saccular aneurysm proceeded from the back of the lower part of the thoracic aorta to occupy the whole of the right base. The neck of the sac admitted the closed fist and the margin was bounded by a calcareous ring. The lower four dorsal vertebræ were extensively eroded, as were the last two ribs. The œsophagus, lying in front of the aorta, was apparently unaffected.

I am indebted to Dr. A. Lionel Baly, our medical superintendent, for permission to publish this case, and I also wish to thank Mr. Trotter for his courtesy and kind services in connexion therewith.

Lambeth Infirmary, Brook-street, Kennington-road, S.E.

TWO CASES OF FRONTAL SINUSITIS WITH BONE COMPLICATIONS.

BY W. S. KERR, M.B. EDIN., F.R.C.S. EDIN.,
SURGEON, EAR AND THROAT DEPARTMENT, ROYAL INFIRMARY, SHEFFIELD.

I PUBLISH these cases to show the varying conditions of bone complications one may meet with in this condition.

CASE 1.—I was consulted in January, 1911, by a girl, aged 19, who complained of very severe pain over the left eye and headaches of two weeks' duration. She had been troubled with nasal catarrh for many years, and had had adenoids removed nine weeks previously. There was no pus to be seen in the nose and an attempt to catheterise the sinus failed. Her temperature was 100° F. Palliative measures failing to give relief, I opened the sinus on Jan. 28th. The mucous membrane was much swollen and intensely congested. No pus was present, but much mucus secretion was evacuated. The temperature soon fell to normal and the pain disappeared. The tube was removed two days later, and the patient remained well for five days. On Feb. 5th she suddenly complained of severe frontal and occipital pain accompanied by retching and vomiting. Her features became swollen and puffy and her temperature ran up to 104°. The pain was especially marked over the left vertex, where there was intense tenderness with slight bogginess. The frontal wound remained healed and clean, and there was no suggestion of an erysipelatous infection. The sinus was reopened and freely drained. Pus was still absent. That evening the temperature rose to 105·4°, although the headache was somewhat relieved. The retching continued, and the patient remained seriously ill. Some cerebro-spinal fluid drawn off by lumbar puncture was kindly examined by my colleague, Dr. A. E. Barnes, and found to be normal. This condition of the fluid, together with the absence of increased pressure in the cerebro-spinal sac, made it improbable that the symptoms were due to any intracranial complication. A blood count showed 21,500 white cells. The temperature gradually fell and the other symptoms abated. Pus began to drain freely from the wound and on the 14th the temperature was normal. She remained well until February, 1912, when, owing to a recurrence of the frontal pain and headache, a radical operation was performed on the left frontal sinus and ethmoidal cells, which resulted in complete recovery.

CASE 2.—This case was that of a man, aged 42, who complained of pain and swelling over the right side of the forehead of eight weeks' duration. When I first saw him, in November, 1912, the swelling was circumscribed, fixed and firm, with no bogginess or implication of the skin. There was no pus to be seen in the nose, but there was marked nasal obstruction caused by hypertrophy of the turbinals and a large left septal ridge and spur. The swelling eventually showed signs of fluctuation, and pus, infected with bacillus pyocyaneus, was evacuated. On Nov. 25th I did a radical operation on the right frontal sinus. There was a large bony erosion of the anterior wall and a smaller one on the floor of the sinus. The sinus was filled with pus. The remainder of the anterior wall, which was carious, and the floor were

removed, and the anterior ethmoidal cells, which were also suppurating, were eviscerated. The man made an uneventful recovery.

The alarming symptoms in the first case were undoubtedly due to the premature withdrawal of the drainage-tube, and the bogginess and intense pain over the left side of the vertex pointed to a commencing infection of the bone. The rapid disappearance of the symptoms on the re-establishment of free drainage was the most marked and satisfactory feature of the case. The swelling in the second case was at first so firm, circumscribed, and comparatively painless that it suggested either a gumma or sarcoma rather than a simple inflammatory swelling.

Sheffield.

NOTE ON A CASE OF A LARGE CONCRETION COMPOSED MAINLY OF CALCIUM PHOSPHATE FOUND INSIDE THE FISTULOUS CHANNEL IN A CASE OF FISTULA IN ANO.

BY D. W. KEILLER MOODY, M.D., C.M. ABERD.

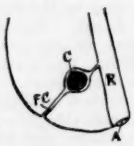
Is the following case unique?

A man aged 62 years was admitted to Addenbrooke's Hospital, Cambridge, under the care of Mr. Joseph Griffiths, suffering from a fistula in ano. He had never had any pain or discomfort, and he only sought medical advice because he said he noticed on going to stool a little "matter," and wondered if there was anything wrong. After dilating the sphincter an incision was made over the fistula and passing through the sphincter. The knife struck a hard object, which turned out to be a concretion about the size of a

FIG. 1.

From a photograph of the concretion.

FIG. 2.



Diagrammatic sketch to indicate site of concretion. FC, Fistulous channel. C, Concretion. R, Rectum. A, Anus.

schoolboy's marble; it was very hard and fairly uniform in shape. It was found in the fistulous channel, not projecting into the rectum, but close to the rectal opening.

One thought it might be a gall-stone, a pancreatic, prostatic, or salivary calculus, or foreign body swallowed, or some insoluble drug taken over a long period. But it turned out to be essentially a phosphate of lime concretion.

Dr. F. G. Hopkins, F.R.S., of Cambridge University Physiological Laboratory, very kindly analysed it. It was found to contain: calcium phosphate, 88 per cent.; magnesium phosphate, 2·5 per cent.; stercobilin and altered bile pigments, 5 per cent. (circa); dried mucus and other organic matter, 2 per cent.; salts other than phosphates, and traces of undetermined substances, 2·5 per cent.

I have asked many surgeons as to how it got there. Most of them "gave it up"; but one said he thought it probably got lodged in a diverticulum and, increasing in size as years went on, it eventually ulcerated its way through and so produced the fistula. This seems quite a reasonable view.

ROYAL SANITARY INSTITUTE.—A sessional meeting of the institute will be held at 90, Buckingham Palace-road, on Tuesday, March 11th, at 7.30 P.M., when a discussion will take place on Milk and Dairies Bill, to be opened by Mr. Herbert Jones, medical officer of health, Herefordshire combined districts. Among those who expect to take part in the discussion are Dr. A. G. R. Cameron, Mr. F. E. Fremantle, Mr. Hugh Stott, Dr. J. S. Tew, and Mr. J. Tubb-Thomas. General discussion is invited. The chair will be taken by Mr. A. Wynter Blyth. Tickets for admission of visitors may be had on application.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Demonstration of Cases.—Summer Diarrhœa and Summer Heat.

A MEETING of this section was held on Feb. 28th, Mr A. H. TUBBY, the President, being in the chair.

Dr. F. PARKES WEBER showed a case of Slight Congenital Deformity of the Hands in a Child. The deformity consisted in partial flexion of the fingers at the metacarpophalangeal joints. The child could use his hand fairly well to grasp with, but could not completely extend any of the fingers except the left index finger. Both the little fingers could, however, be *passively* completely extended. In some spontaneous positions of the hands slight ulnar deflexion of the fingers was likewise noticeable. The patient, a boy, aged 17 months, was born at full term, easily, without instrumental help. He was the only child of healthy parents, who were both young. The mother had had one miscarriage before the child was born. There was no history of any similar deformity in the family, nor was there any special family tendency to arthritic affections. The child had a little convergent squint, and possibly slight hydrocephalus. He likewise presented some rachitic "beading" of the ribs, but otherwise appeared well developed and mentally normal. The position of the hands at first suggested the carpopedal contractions in tetany, but the child had no facial irritability, and nothing else which would in the slightest degree suggest tetany. The feet and toes were quite normal in shape and position. Since the child was two months old the mother had practised a kind of massage with passive movements for his hands, and thought that he could use his fingers better as a result of her treatment. Skiagrams of the hands showed nothing special. There seemed to be no disease in the joints. Dr. Weber had not heard of any exactly similar case. The fault seemed to lie chiefly in the muscles which extended the first phalanges.—In the discussion which followed, the PRESIDENT expressed the opinion that the condition was due to congenital tightness of the palmar fascia.

Dr. WEBER also showed a case of Infantilism due to Mitral Stenosis. The patient, a girl aged 15, had the stature and appearance of a girl of 10.

Dr. F. G. CROOKSHANK showed a case of a Mongoloid child. The boy was a mongoloid of undoubted European parentage, in whom ethnic characters, conforming to a type of racial mongolism, were well marked without the coincidence of any trace of rickets, tuberculosis, syphilis, dysthyroidism, or other disturbing factor. There was no coarse bodily or mental defect, and such features as the fissured tongue and the orangoid ear, so common in mongoloids of the lower grades, were absent. But some traits were present that were simian or orangoid. The child, aged 5 years, was the younger of two sons born to a father who was aged 38 years and a mother who was aged 28 years. The elder brother, aged 7 years, was thin and nervous. The patient himself had a yellow skin and dark hair, though his mother stated that at birth he was "almost black." His hair was fine; his eye-focus of a characteristic form (though the eyes were not "oblique") and his profile was distinctly Chinese. The head, as in a certain proportion of mongoloids, especially of higher grade, was well developed occipitally. The lips were extraordinarily plastic, and the boy, when in the mood, would project them in trumpet form and hoot in imitation of a motor-car, producing noises precisely like those emitted by anthropoid apes. In both jaws the canine teeth were markedly long and tusk-like. The lower incisors were small and the lateral incisors in the upper jaw were notably smaller than those which were central. The testicles were small and probably descended late. He had what had been called a "high pelvis," the crests of the ilia appearing to rise high in the loins, so that the folds of the groins included a more acute angle than usual. He was highly estimated by his comrades as a contortionist.

Dr. EDMUND CAUTLEY showed a case of Mongolism in a baby 3 months old.

Mr. J. E. ADAMS showed two cases of Congenital Coalescence of Radius and Ulna. They were of two children in the same family in whom deformity had been noticed from birth. Both forearms were held in a position of pronation, and although there was movement at the inferior radio-ulnar articulation, supination was almost absent. There was a forward and outward curve in the shaft of the radius. Skiagraphy had shown that the radius was fused with the ulna a short distance below its head, and the deformity was the same in both forearms and in both children. By the kindness of Mr. S. G. Shattock he was enabled to show a specimen from the museum of St. Thomas's Hospital which illustrated precisely the same deformity. A similar case had been described by Dawson.[1] Suggestions were invited as to treatment.—The PRESIDENT and Mr. E. LAMING EVANS, speaking from observation on a similar case, advised against operative measures.

Mr. DOUGLAS DREW showed: 1. A case of Lymphangioma of the Axilla. The patient, a baby aged 9 months, was admitted to the Queen's Hospital with a large, soft, lobulated tumour of the axilla. The tumour occupied the whole axillary space extending up to the clavicle, and required an extensive dissection for its removal, as it surrounded the vessels and nerves. In order to facilitate this the pectoralis minor was removed with the tumour. The specimen was a good example of this variety of tumour. 2. A case of Cicatricial Contraction of the Thumb following a Burn about 18 months previously. X ray photographs showed the thumb drawn back and bound down to the wrist by dense fibrous tissue. After dividing the contracted tissue and liberating the thumb the raw surface was covered by a large flap cut from the back of the hand. 3. A case of Separated Epiphysis of the Femur treated by Plating. The operation was performed on Dec. 9th, 1909. The child had been temporarily lost sight of, and was exhibited because the plate had not been removed. An X ray photograph showed that in the process of growth the screw in the epiphysis had been gradually drawn out; there was no shortening of the limb, and the movements were free. As the plate caused no inconvenience and was not hindering growth it did not appear necessary to remove it.

Mr. EDRED M. CORNER showed a case of Costo-transversectomy: Spinal Caries and Mediastinal Abscess. The patient, a male aged 6 years and 5 months, was admitted on Dec. 6th, 1909, to the Hospital for Sick Children. On admission there was some kyphosis in the lower dorsal vertebræ, with indications of abscess formation on the left side at the level of the eighth dorsal vertebra. A radiogram (Nov. 30th) showed the existence of a large mediastinal abscess in front of the lower dorsal vertebræ. The operation of costo-transversectomy was done on Dec. 14th, the abscess being opened and drained on the left of the spinal column at the level of the eighth dorsal vertebra. A radiogram (Dec. 29th) showed the abscess cavity and some destruction of the ninth and tenth dorsal vertebræ, especially in the transverse processes of the left side and in the heads of the corresponding ribs. By two operations, on Feb. 18th and March 16th, 1910, the abscess cavity was scraped. On May 17th the heads of the ninth and tenth ribs on the left side were excised. A radiogram (July 8th) showed no indication of abscess cavity remaining; there was formation of new bone in the damaged ribs. On Nov. 22nd a sinus was scraped. On Feb. 28th, 1911, the patient was sent to a convalescent home in a Phelps's box, still having a small sinus. He was readmitted on Oct. 1st, 1912. On Oct. 3rd an emulsion of bismuth and iodoform was injected into the sinus. A radiogram showed a small cavity containing bismuth and considerable destruction in the lower dorsal vertebræ, especially the eighth, ninth, and tenth. The sinus gradually closed after the injection. When exhibited the patient had a marked but not extreme degree of kyphosis in the lower dorsal region. On the left of the spine at the level of the ninth dorsal vertebra, there was a depression marking the position of the old sinus, which had healed. A radiogram (Feb. 10th) showed no abscess formation, but there was destruction of the bodies of the lower dorsal vertebræ, especially the ninth and tenth.

Mr. CORNER also showed a case of Congenital Absence of Fibula, Deformity of Tarsus, and Absence of Toe. The patient was a baby and presented the appearance characteristic of the condition. A skiagram showed the absence of the fibula. The tibia was bowed sharply and seemed shorter than the other. The summit of the convexity of the tibia was sharp and presented a groove or dimple over it. The movements of the ankle-joint were somewhat restricted. Apparently the fifth toe was absent. The doctor who first saw the patient diagnosed an intra-uterine fracture which had united. The absence of the toe led to the correct diagnosis, confirmed by the skiagram, of "congenital deformity of leg." In addition the skiagram demonstrated the characters of the deformity; absence of fibula, one centre of ossification representing both the astragalus and calcaneum, absence of the fifth toe and its metacarpal.

Dr. CAUTLEY showed a case of Chronic Albuminuria with Hepatic Enlargement. The girl, aged 8 years and 2 months, was the daughter of healthy parents, but a grandparent and great grandparent were said to have died from phthisis. She had had measles, varicella, mumps, and pertussis. During 1910 she was an in-patient at another hospital for four months for albuminuria. Later on a gland was excised from the left side of the neck, and tonsils and adenoids were removed. From June 20th to July 8th, 1911, she was admitted to the Belgrave Hospital for bronchitis, albuminuria, and right otorrhœa. Two months before this she had had pneumonia, bronchitis, and measles. The attack of bronchitis subsided quickly. Her urine contained much albumin but no casts. A year later she was again admitted for bronchitis and the urine was found to contain a fairly dense cloud of albumin. In November last she was admitted for prolapsus recti. When exhibited she had been an in-patient since Jan. 28th for an attack of bronchitis and anasarca. The face and legs had been moderately swollen for four days. The liver extended 2 in. below the ribs and the spleen was palpable, the abdomen being considerably distended, though there was no dulness in the flanks. The urine contained 0·2 to 0·7 per cent. albumin. A centrifugalised specimen on Feb. 12th showed many white cells, several granular and hyaline and a few epithelial casts. The total daily amount of urine varied greatly—e.g., 12, 22, 30, and 13 oz. on successive days. Von Pirquet's reaction was negative and there was no reason to suspect syphilis. The case was shown with a view of eliciting opinions as to the nature of the albuminuria, the causation of the hepatic enlargement, and the probable prognosis.

Dr. H. CHARLES CAMERON read a short paper on Summer Diarrhœa and Summer Heat. Its object was to emphasise the importance of temperature and environment as direct causes of summer diarrhœa, in contradistinction to infection.

[1] Brit. Med. Jour., Oct. 5th, 1912.

SECTION OF ELECTRO-THERAPEUTICS.

The Use of X Rays in the Diagnosis of Pulmonary Tuberculosis.

A MEETING of this section was held on Feb. 21st under the presidency of Dr. REGINALD MORTON. The subject for discussion was the Use of X Rays in the Diagnosis of Pulmonary Tuberculosis.

Sir R. DOUGLAS POWELL declared that no one appreciated X ray work more than he did, and especially the advances in technique. The use of X rays in connexion with lung disease he understood to be to correct or confirm what was revealed by auscultation and percussion. Dr. Jordan, in a published work on the subject, laid stress on the presence of streaks of shadows in the X ray picture leading from the bronchial glands, and enlargements of those glands, but the speaker did not regard that as necessarily evidence of active tubercle; he would not be content unless tubercle bacilli were found in the sputum. The bronchial glands he regarded as the dustbins of the bronchial tract; they collected the unconsidered trifles which might gather in the bronchial tubes and get into the lymph streams, and their enlargement need not be held to mean that they were tubercular. Dr. Jordan himself had found tuberculous disease present in 33 per cent. of people who met with an accident when apparently healthy and died. The bronchial glands were also the lethal chambers of tubercle bacilli. Children, and sometimes adults, might have the bronchial glands affected, but rarely primarily. There was some danger of being obsessed by instrument records; hence infinite care was needed in taking and interpreting X ray pictures. How greatly would

X rays have helped in early days in deciding whether a case was one of phthisis or one of foreign body. From a simple judgment of shadows a healing fibrosis might be regarded as an extension of disease. To sum up, he considered that X rays were valuable in the case of pulmonary tuberculosis in the sense that percussion and auscultation were valuable; but X ray usefulness did not go beyond that.

Dr. W. J. S. BYTHELL (Manchester), in a paper on the Early Diagnosis of Pulmonary Tuberculosis in Young Children by means of the X Rays, gave the results of the X ray examination of nearly 400 children between the ages of 4 and 12, with the object of showing (*a*) the value of the rays in the early diagnosis, and (*b*) the seat of origin of pulmonary tuberculosis in young children. The author laid special stress upon the importance of carefully examining the roots in order to determine the presence or absence of enlarged bronchial glands, and also upon the necessity of distinguishing between active and healed tubercular infections. Attention was drawn to the great frequency of tubercular infection among all classes, and especially among children in the poorer parts of big towns; in most cases the infection was overcome without permanent ill-effects, but probably scars are always left behind, most commonly in the form of calcareous bronchial glands. 150 of the cases were tabulated with the following result:—

nical examination.		X ray examination.		
		Positive.	Suspicious.	Negative.
Positive	43	35	5	3
Suspicious ...	67	38	16	13
Negative	40	9	8	23

The author draws the following conclusions: (1) Among poor children in big towns probably the actual majority show signs of tubercular infection of the roots of the lungs; (2) an X ray examination often reveals this fact before there are any physical signs by means of which the clinician is able to make a diagnosis; and (3) the disease appears to commence invariably at the roots of the lungs. In this connexion Jordan's views upon peribronchial tubercular infiltration were discussed with the aid of lantern slides.

Dr. DAVID B. LEES said that seven years ago he investigated some cases by auscultation and percussion, and Dr. G. A. Simmons radiographed them, and the conclusion they arrived at was that X rays would not show areas of apical dulness which to his percussion were clearly diseased. But he quite expected that improvement in technique would alter that, and this had proved to be the case. But he thought the value of careful and accurate percussion in incipient pulmonary tuberculosis was much under-estimated; he also thought physicians should cease examining patients while in the erect posture. He did not agree that in the majority of cases, in children at all events, the disease started in the bronchial glands. Post mortem many children were found to have caseous bronchial glands, but with no sign of lung tubercle. The bacilli seemed to pass through the mucous membrane into the glands without leaving any trace of their passage. In a series of cases examined by himself, and independently with X rays by Dr. G. H. Orton, he found the latter accurately confirmed both the presence of the disease and the particular side involved. But he insisted that the radiograph should always be taken by an expert, and great care should be exercised over its interpretation. X rays had also clearly shown a nervous inhibition of the diaphragm in cases of chest disease, so that the patient felt quite unable to take a deep breath when required to.

Dr. A. C. JORDAN said that as a result of further observation since publishing his paper he was convinced that hilus or peribronchial tuberculosis occurred even more frequently than he had there stated. In 13 consecutive cases examined at a chest hospital all showed considerable peribronchial mottling, whether the apices were or were not involved. He had never felt impressed by the statement that tuberculosis commenced at the roots of the lungs. The first change was a catarrhal broncho-pneumonia, then followed a leucocyte invasion of the surrounding tissue, and the glands were involved secondarily. In one case he radiographed a patient's lung, and five diseased areas were lettered; shortly afterwards she died from accident, and the post-mortem examination exactly confirmed what he found by X rays.

Dr. W. PASTEUR spoke of the new idea that tuberculosis first appeared at the root of the lung and then spread outwards. The new conception should be confirmed by evidence which was irrefutable before the profession was asked to accept it.

Dr STANLEY MELVILLE said the attitude of clinicians up to quite recent times might be summed up in a sentence taken from a well-known text-book: "In the early stages of pulmonary tuberculosis the method had been found to be of but little use." Recent work had modified this attitude, and the clinician of the future ought not to rest satisfied until his findings have been fortified or modified by X ray examination. It was impossible to divorce the clinical from the radiographic examination or to regard them as alternative methods. An acknowledgment was made of the debt which was due to early workers on the subject—e.g., Walsham and Orton. What should be taken as the standard of average normal chest? So great a proportion showed opacities at the hilum or linear shadows that they must be regarded as within the limits of health, or the view must be accepted that an overwhelming percentage of the population are, or have been, infected with tubercle. As to the radiographer's type of chest, which is *primâ facie* suggestive of pulmonary tuberculosis, this was considered under the following headings: movement of chest and diaphragm, size of heart (dystrophy), mediastinal contents (glands), significance of linear striation. Dislike was expressed of the term peribronchial phthisis. Why not "central," as in contra-distinction to "apical" or "basal" pulmonary tuberculosis? There was a difficulty in following Dr. Jordan's argument. If definite opaque masses at the hilum + radiating linear opacities were pathognomonic of pulmonary tuberculosis, then they occurred in so vast a percentage of cases as to compel medical practitioners to *notify* about 90 per cent. of the population, and at best the radiographer could only say that they are suggestive of *arrested* tubercle. If his argument is that this condition + definite surrounding mottling suggests activity, then he is stating nothing that radiographers have not appreciated for years—viz., that mottling of lung tissue is the X ray sign of pulmonary tuberculosis, and the activity of the process depends upon (1) the X ray appearance, whether "woolly" or "hard," (2) clinical evidence—e.g., temperature, &c.

The discussion was adjourned until March 19th.

HUNTERIAN SOCIETY.

Exhibition of Cases.

A CLINICAL meeting of this society was held at the London Hospital on Feb. 26th, Mr. A. H. TUBBY, the President, being in the chair.

Dr. P. N. PANTON demonstrated cases and blood films illustrating the various types of the Non-granular Leukæmias. Specimens or cases were shown of the following conditions: chloroma, with the blood changes of acute myeloid leukæmia; acute myelcid leukæmia; the myeloblastic stage of chronic myeloid leukæmia; acute lymphoid leukæmia; and three cases of chronic lymphoid leukæmia.

Mr. S. GILBERT SCOTT showed some radiograms of Bone Diseases, Innocent and Malignant, also radiograms of Pituitary Tumour, &c.

Dr. LEWIS A. SMITH showed a case of Polycythæmia associated with Congenital Morbus Cordis in a boy.

Dr. J. H. SEQUEIRA showed a remarkable case of Multiple Lupus.

Mr. HUGH LETT showed a case of Cervical Rib. The patient was a woman, aged 27, who had suffered from pain down the inner side of the right arm and forearm for the last two years. The hand got tired more easily than the one on the opposite side, and was very susceptible to cold weather. On examination there was marked wasting of the muscles of the thenar and hypothenar eminences, and also of the interossei. There was some loss of sensation on the inner side of the forearm and hand. The pulse in the right radial artery was smaller than that in the left. No bony tumour could be felt in the neck, but a skiagram showed two bony projections,

apparently an inch and a half long, extending downwards and outwards from the transverse processes of the seventh cervical vertebra.

Dr. R. HUTCHISON showed: 1. A photograph of a girl, 3 years of age, who is the subject of Acute Myeloid Leukæmia with infiltration of both parotids and swelling of all the lymphatic glands. 2. A case of probable early Acromegaly in a man aged 42, with enlargement of the hands and feet and concentric diminution of the visual fields. A radiogram of the base of the skull, however, showed nothing abnormal and there was no diminution of sugar tolerance.

Mr. L. J. AUSTIN showed: 1. A case of Pancreatic Cyst (Mr. P. Furnivall's case) in a man aged 45. In August, 1912, the patient was hit in the lower part of the chest by the pole of a cart, and recovered from the accident in a few weeks. Some months later a large swelling was discovered in the epigastric region, which was tense, globular, dull, and moved slightly with respiration. The diagnosis offered was that of pseudo-pancreatic cyst of traumatic origin. 2. A case of Osteitis Deformans (Dr. F. J. Smith's case). The patient, aged 50, had noticed changes in his skull for three to four years. On examination he presented the following typical signs: (1) An irregular bossy head; (2) marked kyphosis; (3) enlarged and curved tibiæ. Most excellent radiograms were exhibited showing the changes in the skull, spine, and legs. 3. A specimen of Chronic Duodenal and Gastric Ulcers (Mr. J. Sherren's case). The patient, aged 61, had had symptoms for about three years, and was admitted to the London Hospital with some hæmatemesis and melæna. He died before any operation could be performed. The specimen showed a chronic gastric ulcer on the lesser curve 4 cm. from the pylorus, and also a chronic duodenal ulcer on the posterior surface of the duodenum with firm adhesions to the pancreas. At the base of this ulcer was seen a ruptured aneurysmal dilatation of the gastro duodenal artery. Mr. Sherren also provided seven cases of cured duodenal ulcers, three of which had perforated at the time of operation. Only one had any symptoms of discomfort, and in this case perforation had occurred. Gastro-enterostomy had been performed on all of these, and in one case where closure of ulcer only had been performed an enterostomy had to be done subsequently.

MANCHESTER MEDICAL SOCIETY.

Treatment of Syphilis by Neosalvarsan with Wassermann Control.—Early Diagnosis of Pulmonary Tuberculosis in Young Children.

A MEETING of this society was held on Feb. 19th.

Mr. L. SAVATARD, dealing with the clinical aspect of the Treatment of Syphilis by Neosalvarsan with Wassermann Control, said he was stimulated to a more thorough use of neosalvarsan, after hearing McDonagh's paper on a Rational Method of Treating Syphilis in July last. Since that time he had treated some 25 cases and given about 100 injections with excellent results In five cases he had administered the drug intramuscularly (according to Wolbarst's method), and though there had been no pain at the time all the patients had suffered afterwards. The remainder had all been treated intravenously. The greatest care had been taken in the preparation of the patient and of the apparatus. McDonagh's syringe was used; the neosalvarsan was dissolved in *freshly redistilled* water heated to 100° C. and then cooled to 25° C.; the dosage varied from 0·6 grm. to 0·9 grm. All the cases thus treated had, apart from their syphilitic affection, been otherwise healthy. No bad symptoms had resulted, and in no instance had there been any rise of temperature. The injections had been given in some cases weekly, in others fortnightly, and in others every three weeks. When a *cure* was aimed at, the injection was continued till the Wassermann reaction was negative both before and after the last injection. To produce this result in sec ndary cases at least seven injections had been found necessary. Mercury had been administered afterwards. The earlier the treatment the sooner was the cure effected. Among the secondary cases, previously untreated, referred to and shown on the screen were macular, papular, pustular, and frambœsiform syphilides. A case of syphilitic leucoderma in a man was also mentioned in which a single injection had effected a symptomatic cure. The tertiary cases shown had previously resisted prolonged treatment with mercury and potassium iodide, and among these were patients with extensive lesions of the buccal cavity and a malignant syphilide. The speaker commended the use of provocative injection in cases of latent syphilis.—Dr. ARNOLD RENSHAW dealt with the pathological aspect. The evolution of the Wassermann reaction was traced from the time when Pfeiffer demonstrated the phenomenon of bacteriolysis. Discussing the nature of the antibodies which cause a positive reaction the speaker considered that they could not be true antibodies similar, say, to those present in streptococcal infections, since, so far as he knew, no spirochætæ had been demonstrated as being ingested by leucocytes. He maintained that a positive Wassermann reaction is an expression of the amount of liberated endotoxin obtained by the destruction of spirochætæ and its subsequent action upon the cells. Whether that reaction was due to the actual disorganisation of the cells, brought about in some special chemical manner—possibly a catalytic reaction—by the particular endotoxin set free by the dead spirochætæ had yet to be demonstrated. A schematic representation of the life cycle of the organism of syphilis as worked out by McDonagh was next shown and used to explain why in certain stages of the disease a negative reaction was present which would become positive after an intravenous injection of neosalvarsan, treatment being continued until the reaction was negative immediately after an injection. A comparison between this method and the sterilisation of tetanus spores was made, it being suggested that neosalvarsan stimulated the zygotes to develop into a stage in which they might be killed. Stomatitis cases usually gave a very strongly positive reaction, and where a mouth lesion of any magnitude was present without a slightly positive reaction it should be suspected that the disease had had some other infective process—e.g., tuberculosis—superadded, or that the condition had progressed to the stage of carcinoma.

Dr. C. P. LAPAGE read a paper on the Early Diagnosis of Pulmonary Tuberculosis in Young Children, with Special Reference to the Value of X Rays as an Auxiliary to Clinical Examination. He drew attention to the frequency of pulmonary tuberculosis in children, and to the evidence which showed that the disease was so often at the roots of the lungs. He described the conditions which gave most difficulty in diagnosis: (1) Active open disease at the roots; (2) active disease limited to the bronchial glands; and (3) healed disease in the lungs with some superadded condition giving general symptoms resembling those of tuberculosis. Having noted the fact that with ordinary clinical methods it was often impossible to make a definite diagnosis owing to the absence of physical signs, he demonstrated the value of the X rays in clinching a diagnosis based on suspicious symptoms only. The results of the examination of 150 cases, most of them chosen because of their suspicious condition clinically, was given in tabular form. The table showed the relation between the clinical and the X ray examination as made independently by clinician and radiographer. Dr. Lapage upheld the great value of the X rays in these cases as a supplement to the clinical examination, and pointed out the importance of establishing the normal screen picture of the thorax.—Dr. W. J. S. BYTHELL first dealt with the nature of the evidence afforded by an X ray examination, directing attention specially to the importance of thoroughly examining the appearance of the roots of the lungs. In his opinion the normal streaky markings visible in all lungs might be increased by bronchitis, and he regarded shadows due to enlargement of the bronchial glands or to pulmonary consolidation as the only reliable signs of tuberculous infection. As the result of 300 or 400 examinations he had made, he concluded that the majority of children living in our large towns present evidence of the tuberculous infection after the age of 6 to 8 years. In most cases the glands were able to overcome the bacilli, but should they caseate and break down the infection extended directly to the adjacent lung tissue and led to a tuberculous broncho-pneumonia, originating at the hilus of the lung. In any case he was strongly of opinion that pulmonary tuberculosis in children commenced in the vast majority of cases, if not invariably, at the root of the lung. In the earliest stages of this root disease definite indication of the lesion might often be discovered by means of the rays when no physical signs were to be detected.

LIVERPOOL MEDICAL INSTITUTION.

Recurring Dislocation of the Shoulder.—X Ray Examination of the Stomach.—Some Points in Modern Eye Practice.

A MEETING of this society was held on Feb. 20th, Mr. ROBERT JONES, the President, being in the chair.

Mr. T. R. W. ARMOUR read a note on two cases of Recurring Dislocation of the Shoulder in which "Clermont's" operation had been performed by Mr. Robert Jones. The first patient had had his right shoulder dislocated 76 times and his left 26 times. He had had capsulorrhaphy performed on both joints without success. The operation consisted in bringing a long flap of the posterior margin of the deltoid through the quadrilateral space in front of the capsule of the joint and stretching its end in front under the coracoid process. This deepened the socket and tightened the capsule. Care was needed to avoid injury to the nerve and arterial supply of the muscle. In the first case the operation performed in June last year had not been a success. The second case was done last November, and so far had been quite satisfactory. Mr. Robert Jones said that the first case had failed from faulty technique; the deltoid flap had not been long enough and the tunnel not wide enough to allow easy manipulation; also the fixation of the flap had not been sufficient to prevent the flap of muscle returning to its original place. In the second case care had been taken in these points, and so far with good result. The operation was only on its trial.

Mr. C. THURSTAN HOLLAND read a short paper on X Ray Examination of the Stomach. From one-half to three-quarters of a pint of bread and milk, of the consistence of bread-sauce, mixed with three or more ounces of carbonate of bismuth, or barium sulphate, which was much less expensive, was given to a fasting patient. The stomach was then seen to be much longer and narrower than was depicted in anatomical works even of recent date. The lower end came to the level of the iliac crest, and the whole organ was to the left of the middle line. The movements were rhythmical, at the rate of 1 in 20 seconds, and did not go through into the duodenum. The food did not lie at the lowest part of the stomach, but was distributed through the length when full. The normal stomach emptied in about 3½ hours after this test meal. Mr. Holland showed photographs on the lantern screen of the normal stomach and its variations and contractions: three cases of transposed viscera; cases where gastric enterostomy had been done; cases of gastroptosis; of dilated stomach, in which he showed the lower end of the stomach was quite in the pelvis; also cases of malignant disease and of hour-glass contractions of the organ.—Dr. T. R. BRADSHAW said that physicians recognised Mr. Holland as an expert authority and welcomed the immense aid that the X ray method gave in diagnosis in very many cases.—Dr. J. HILL ABRAM said that the physician would still be obliged, especially in places remote from elaborate equipment, to rely on the older methods of diagnosis, while they, of course, welcomed the confirmation and help that radiographic methods afforded.—Mr. J. BRADLEY HUGHES and Dr. R. J. M. BUCHANAN also spoke, and Mr. THURSTAN HOLLAND replied.

Dr. EDGAR STEVENSON read a paper on Some Points in Modern Eye Practice. In speaking of therapeutic agents, he said that he had found cocaine hydrochlorate the most useful of the group of local anæsthetics. He thought that a weak mydriatic, such as homatropine, was safer than the stronger preparations. Among silver preparations the nitrate was the most useful. Subconjunctival injections of oxychloride of mercury had been found useful in septic cases. Of internal remedies, aspirin in trauma and in iritis cases, and sodium salicylate in large doses in sympathetic ophthalmia had been of service. Dr. Stevenson's experience of salvarsan, of vaccines, and sera had not been very favourable. Of physical remedies, he condemned cold applications as dangerous, and found heat more useful. He still found depletion by leeches of great benefit. Time did not permit the whole paper to be read, but Dr. Stevenson showed two preparations illustrating Tote's operation for dacrocystitis.—Mr. T. H. BICKERTON disagreed with the use of nitrate of silver in gonorrhœal ophthalmia; he had used none for 16 years. He used iced compresses, and had never lost an eye.—Mr. W. T. CLEGG called attention to the omission of urotropine, which he had found useful in wounds of the eye. He did not think subconjunctival injections were better than ordinary subcutaneous injections. In the treatment of dacrocystitis he was satisfied with the older methods of treatment, and thought that excision of the sac should be of very limited application.—Dr. A. NIMMO WALKER agreed with Dr. Stevenson in his condemnation of the use of ice pads in gonorrhœal ophthalmia, and was convinced that warm moist applications were the best in the acute stage. He had not tried bloodletting in glaucoma. In a routine examination of the blood pressure in cases of chronic glaucoma he had failed to find any definite relationship between changes in circulatory and ocular tensions. In dacrocystitis slitting the canaliculi and probing were worse than useless. The new operation described by Dr. Stevenson was well worth trying.—Mr. E. MALCOLM STOCKDALE agreed that the old-established drugs, such as cocaine, atropine, and boric acid, still retained their place in eye work. The use of silver nitrate solutions, he thought, should always be very limited and applied with the greatest care. In gonorrhœal ophthalmia the infection, being at first on the surface, could be washed away by a mild lotion, such as boric acid. In advanced lacrymal disease he had found excision of the sac to yield satisfactory results.—Mr. R. E. HARCOURT and Dr. J. R. LOGAN also spoke, and Dr. STEVENSON replied.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF ANATOMY AND PHYSIOLOGY.

The Adequate Stimuli of the Respiratory Centre.

A MEETING of this section was held on Jan. 24th, Dr. B. J. COLLINGWOOD, the President, being in the chair.

Professor T. H. MILROY read a paper on the Adequate Stimuli of the Respiratory Centre. He described the methods of studying the influence of nervous factors in the production of apnœa, and also the effects of various gas mixtures on the quiescent centre. The following conclusions were tabulated: 1. Alterations in the rate or degree of distension of the pulmonary alveoli when the amount of ventilation is constant do not affect the duration of the apnœic pause in any constant direction, but a repetition of ventilation periods tends to prolong the pause. 2. Removal of the vagal control does not interfere with the production of the apnœic pause. 3. Any rise in the CO_2 content of the air used for ventilation shortens the apnœic pause, and any increase in the carbonic acid content of the gas mixture used to distend the lung after pulmonary ventilation with air shortens the period. With increased CO_2 content of these gas mixtures irrespective of the amount of oxygen, the apnœic pause proportionately decreases. 4. Injection of small quantities of acid solutions directly into the carotid during the pause leads to respiratory movements of an exaggerated type, as does also injection into the central end of the carotid and into the external jugular vein to a lesser degree. 5. With the excitation of such respirations during the pause there is associated an increased passage of carbonic acid from pulmonary blood to air. 6. These effects are produced after removal of the vagal control, but the excitability of the centre under such conditions seems to be diminished. 7. The passage of CO_2 from alveolar gas mixtures to blood, or from blood to alveoli, seems to depend entirely upon the difference of the pressure of that gas in the blood and air in the alveoli. 8. It seems most probable that the effective stimulus of the respiratory centre rendered quiescent by over-ventilation is a rise in the carbonic acid concentration in that centre, whether brought about by the normal rise in carbonic acid formation during the pause, with its associated rise in the CH_1, or primarily to a rise in the CH_1 from the formation of acid products of incomplete oxidation giving rise secondarily to an increase of the free CO_2 tension.—Professor W. H. THOMPSON, Dr. O'CONNOR, and the PRESIDENT spoke, and Professor MILROY replied.

Mr. J. M. M'MAHON gave a demonstration of the action of Thrombin and Antithrombin.—The PRESIDENT pointed out that this preparation of thrombin acted equally well in purpura hæmorrhagica and in hæmophilia.—Mr. E. L. SHERIDAN said that he had used this preparation with success for persistent bleeding after extraction of teeth.

Professor THOMPSON described some New Standard Solutions for the Estimation of Creatinin by Folin's Method, and also described a Modification of Benedict's Method for Estimating Urea.—The PRESIDENT and Professor MILROY spoke, and Professor THOMPSON replied.

SECTION OF OBSTETRICS.

Rupture of the Uterus.—Wertheim's Hysterectomy.—Surgical Treatment of Pelvic Thrombosis of Septic Origin.

A MEETING of this section was held on Feb. 7th, Dr. A. J. HORNE, the President, being in the chair.

Dr. D. G. MADILL showed two cases of Rupture of the Uterus. Case 1 was a multipara, aged 34, who was sent into hospital in a collapsed state, with a history of having been in labour nine hours. Her pains increased in strength for about seven hours, when she got a very severe pain, after which all pains ceased. The fœtus could be easily palpated in the abdominal cavity. On opening the abdomen the fœtus was found to have left the uterus—all except the head—through a large rent extending from a third way up the uterus on the left downwards and outwards along the base of the left broad ligament. The placenta was loose in the uterus, and there was a good deal of intraperitoneal hæmorrhage. Supravaginal hysterectomy was done and the patient recovered. The second case was a multipara aged 32. Previous labours normal. After she had had pains off and on for a fortnight the doctor tried to apply forceps three times, but failed. She was then sent into hospital in a moribund state. Palpation disclosed the fœtus free in the peritoneal cavity. The extremely collapsed condition of the patient prevented immediate operation. When the abdomen was opened both fœtus and placenta were found to have left the uterus, and an enormous rent was discovered on the right side of the uterus extending down and half-way across the cervix in front and behind. There was a great deal of intra- and subperitoneal hæmorrhage. The bladder was badly torn. Hysterectomy was done as rapidly as possible, but the patient succumbed just as the operation was concluded. In Case 2 the cause of obstruction was hydrocephalus, the baby in addition weighing 9½ lb. In Case 1 the patient had a very pendulous abdomen, and obstruction was probably due to the misdirection of the uterine contractions against the promontory instead of through the brim.—Dr. H. JELLETT pointed out that in the first case Dr. Madill had successfully operated on a patient although the child had passed from the uterus into the peritoneal cavity. A well-known obstetrician had stated that he had never seen a case of uterine rupture such as this where the patient was saved. He (Dr. Jellett) had reported a similar case to this section during the last session. In that case the same treatment was adopted as Dr. Madill had adopted, and the patient got perfectly well.—Dr. B. A. H. SOLOMONS recalled a case in which rupture of the uterus had resulted from a neglected brow presentation, and the body of the child was in the abdominal cavity. The child was delivered by forceps, the placenta manually removed, and the rent in the uterus plugged with iodoform gauze. The patient got quite well. Various modes of treatment had from time to time been reported as successful, but it seemed nearly impossible to lay down a definite treatment without seeing the individual case.—Dr. R. D. PUREFOY said he had seen and assisted with the two patients. He considered it proper that all these cases should be brought forward, as most handbooks were calculated to lead younger members of the profession to believe that warning symptoms always preceded the catastrophe.

Dr. E. H. TWEEDY exhibited a specimen of Cancer of the Uterus in a patient aged 38. When she first consulted him she stated that she fainted the night before from hæmorrhage. The vagina was plugged and the patient was brought into hospital, but she continued to bleed freely. On examination he found the entire lip of the cervix malignant. She was curetted, but very little came away. There was no pain nor history of discharge. The uterus was mobile, and ulceration had not taken place. There was no cachexia. Wertheim's hysterectomy was performed, and on opening the uterus a small myoma was found with a blood clot round it which was the cause of the bleeding. But for this myoma the patient would not have come up with the cancer. Just before closing the abdomen a mass of very adherent glands was found, far away from the original growth.—Dr. PUREFOY said it had long been believed that malignant disease of the cervix became a danger to life early in the progress of the case, and the implication of distant glands in this patient confirmed that view.

Dr. JELLETT read a paper on the Surgical Treatment of Pelvic Thrombosis of Septic Origin, dealing first with the essential differences between acute and chronic pyæmia. He referred to a patient who had died last year in the Rotunda Hospital from pyæmia with thrombosis of the ovarian vein, as shown at the post-mortem examination. He consequently decided to operate on future cases of a similar kind. He then recorded three such cases, in all of which the initial history was characterised by recurrent rigors, high temperature, and rapid pulse. In conclusion, he referred to the interesting fact that in all his cases the thrombosis was on the right side, and primarily in the ovarian vein alone. Consequently, they were favourable cases for operation. He considered that such cases called for operation always, and that it should be as early as possible. The diagnosis, he said, was the important point, and that, as a rule, this could be made from the symptoms, taken in connexion with thickening or swelling in the broad ligaments, and associated with the comparatively little pain or tenderness.—Professor A. J. SMITH said that anything which went to advance knowledge of the operative treatment for thrombosis of the pelvic veins represented a distinct step. The opinion amongst those who had operated seemed to depend more on the conditions found bimanually than on the rise of temperature and comparatively slow pulse.—Dr. J. S. SHEILL suggested that the fact of infection taking place more frequently on the right side than on the left was attributable to the fact that most examiners were right-handed, and the tendency was for the examining finger to be brought to the right side of the patient, and that possibly ulceration of the cervix might have taken up the infection thus.—Mr. C. Y. PEARSON considered that the operation was justified whether there was thrombosis present or not. On anatomical grounds it was to be expected that the uterine vessels would be open to infection more than the ovarian veins. With regard to the technique, before proceeding to follow up the veins the first step should be to expose the ovarian vein where it entered the vena cava or left renal vein and divide it. It was, he thought, important to start as far away as possible from the focus of infection. There was a great danger of embolism if the general circulation was not shut off before attacking the septic parts. He had found vaccines of little use in cases of acute infection, but he had seen serum do good.—Dr. R. J. ROWLETTE spoke of the generally unsatisfactory results of vaccines in thrombosis. He thought that the reason was that in nearly every case of thrombosis there was a mixed infection. He had recently, however, had two cases where vaccine was the only treatment adopted, and was successful. One was a case of acute puerperal melancholia and pyæmia, and an autogenous staphylococcus aureus vaccine was given with quite satisfactory results. The second case was much more serious, and one in which he thought at first that any treatment would be hopeless. There was thrombosis, and there were infarcts in the lungs, and in the opinion of those in charge of the case the patient was hopelessly ill when the treatment was started. A growth of streptococci was obtained from the venous blood and a vaccine prepared. The temperature and pulse came down step by step, and the general condition improved. In a week the patient was convalescent, and though an attack of pleurisy supervened she recovered completely. It was one of the worst cases of puerperal sepsis he had ever seen.—Dr. PUREFOY considered that Dr. Jellett was correct in stating that 60 or 70 per cent. did not recover. The most interesting case was that in which the ovarian artery showed marked degenerative changes. This had not been previously recorded. Two recent writers mentioned three cases of the kind in which operation was carried out without success, and they laid down the principle that where organisms were found only during rigor, operation was indicated and would probably be successful; but where the organisms were found at any other time operation was not indicated.—Dr. JELLETT, in reply, recognised that the question of operation in these cases was still one for very grave discussion, but that in cases such as those he brought forward it was positively indicated.

LONDON DERMATOLOGICAL SOCIETY.—A meeting of this society was held on Feb. 18th, Dr. Morgan Dockrell presiding.—Dr. J. L. Bunch showed a case of a man, aged 50, with a Marked Symmetrical Dupuytren's Contraction of the Fingers which was remarkably hereditary, as the same condition had existed in his family for the past 300 years. It commenced about the age of 25 and reached the maximum at about 40. His father, grandfather, and so on, had had exactly the same lesions, and his two sons both had it—one aged 26 was just starting.—Dr. Bunch also showed the case of an old woman with some Scarring on the Nose and a small Tumour on the Back of the Neck—the former either tubercular or syphilitic and the latter a cyst.—The President, Mr. D. Vinrace, Dr. R. Prosser White, Dr. W. Griffith, Dr. W. Knowsley Sibley, Dr. W. W. Wells, and Dr. J. L. Phibbs discussed the cases.—The President showed a case of a man with some Old-standing Specific Scars and Depressions on the Scalp, the severity of which he considered was associated with a tubercular soil.—Dr. Griffith showed a man who presented a Diffuse Area of Livid Red Skin, involving the whole of the bathing-drawers area. The Wassermann reaction was negative, and histologically it presented the condition of parakeratosis, and he considered it one of the erythrodermias.—Dr. Sibley showed a case of advanced Leucoderma in a girl 18 years of age. The treatment consisted in increasing the pigment in the pale areas by local hyperæmia and removing it from the pigmented ones by lotions of perchloride of mercury applied by ionisation.—Dr. Sibley also showed a case of extensive Scrofuloderma in a girl aged 9; some of the lupus lesions he was treating with ether carbon dioxide, and others with ionisation of sulphate of zinc solution.—Dr. Prosser White read a paper on the Sociological Aspects of Syphilis, in which the point was emphasised that the first thing to enable a disease to be controlled was to know its extent. In Scandinavian countries compulsory notification of syphilis was enforced, its seriousness only too well recognised, and rational attempts were made to check it. It was the opinion of many that venereal disease was more disastrous to the health of a country than either tubercle or alcohol, and he compared the apathy towards the former with the public and private interest in the two latter questions. Again, syphilis was much more easily controlled by treatment than either of these. Modern intensive treatment by healing up the early and secondary lesions of syphilis make this treatment a valuable and prophylactic measure. The continent, America, and our colonies were demanding free treatment by experts. How long must we delay?—The President, Dr. Sibley, Mr. Vinrace, Dr. Griffith, and Dr. E. G. Reeve joined in the discussion.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held in Liverpool on Feb. 21st, Dr. W. E. Fothergill (Manchester), the President, being in the chair.—Dr. J. E. Gemmell (Liverpool) showed a specimen in which the vermiform appendix was adherent to the right Fallopian tube. The left appendage had formed a tubo-ovarian abscess. The right tube and appendix were so intimately connected, and the history of two abortive attacks of appendicitis so definite, that the primary mischief was probably appendicular.—Dr. T. B. Grimsdale (Liverpool) showed a specimen of Carcinoma of the Body of the Uterus from a patient whose ovaries were removed three years previously and which were reported upon at the time as being suspicious of malignancy, though not definite.—Dr. Gemmell showed two cases of Ectopic Gestation. 1. A secondary abdominal pregnancy with a seven months' fœtus and with a very clearly defined history. 2. An isthmal pregnancy in the left tube of six weeks' duration, which caused very severe intraperitoneal hæmorrhage. The abdominal ostium was free from blood clot or appearance of drip, and no rupture could be found on the tube.—Dr. W. Fletcher Shaw (Manchester) showed a Fibromyoma of the Uterus complicated by an abscess in the right broad ligament from which a pure culture of streptococci was obtained. Eight years previously the patient had a septic miscarriage, but had had good health from that time until the sudden onset of the pelvic inflammation.—Dr. W. Blair Bell (Liverpool) showed a case of Superinvolution of the Uterus with Exophthalmic Goitre. The patient was aged 25 and had normal health until the birth of her first child 11 months ago. Lactation failed in a few weeks and the thyroid enlarged, all the symptoms of exophthalmic goitre developing in a short time. The uterus was very small, the cavity being only 2 inches in length. The case was of great interest owing to the fact that superinvolution appeared more likely to follow deficient thyroid secretion than the reverse.—Dr. Catherine Chisholm (Manchester) read a paper on the Nature and Extent of Menstrual Molimina during Adolescence, based upon the menstrual history of 500 girls attending school between the ages of 10 and 20. The majority, 58·6 per cent., experienced no discomfort. In 33·6 per cent. the pain was slight and often only occasional: those suffering discomfort experienced rather local symptoms than general disturbance, such as headache or general lassitude. The tendency to disturbance did not appear affected by the age of onset. Severe cases of pain, so far as there was opportunity for examination, were associated with local abnormalities. The largest number of cases with discomfort and pain occurred among anæmic girls with profuse loss. The best physically developed girls showed over 70 per cent. without any disturbance and with no cases of pain which incapacitated them from work. Hard mental and physical work under healthy conditions did not appear to affect the freedom from menstrual disturbance.

BRISTOL MEDICO-CHIRURGICAL SOCIETY. — A meeting of this society was held on Feb. 12th, Dr. Walter C. Swayne, the President, being in the chair.—Dr. F. H. Edgeworth, in opening a discussion on the Treatment of Chronic Constipation, said that constipation might exist with a daily opening of the bowels. Delay in passage of the intestinal contents over the normal 40 hours could be easily shown by the administration of charcoal biscuits to colour the fæces. He had found that salines were particularly efficient in patients with high blood pressure and that while cascara to retain its effects must be given in increasing doses, aloes need not. In cases combined with neurosis he had found bromides efficient, and in cases in which the chief difficulty was emptying the lower bowel enemata had to be used, glycerine being unsuitable for constant use owing to its injurious action on the mucous membrane.—Mr. T. Carwardine said that he had been able to cure several cases by the division of adhesions in the ileo-cæcal region, but he was doubtful as to the advisability of performing such extensive operations as removal of the colon.—Mr. F. G. Bergin pointed out that by locating the situation in which delay occurred a bismuth X ray examination was of great help towards correct treatment.—Dr. Bertram M. H. Rogers regarded constipation in children and infants as the result of bad habits, combined with a deficiency of fats in the food, and particularly of water.—Dr. J. Michell Clarke regarded neglect in childhood as the most frequent cause, and insisted on a routine rectal examination in cases of constipation.—Mr. Lansdown had once been asked to remove the colon to cure a case of constipation, but had given relief by removal of enlarged ovaries impacted in the pelvis.—Mr. J. L. Firth had treated a chronic case by appendicostomy and lavage, but had been compelled later to remove the colon.

OXFORD MEDICAL SOCIETY.—A meeting of this society was held in the Radcliffe Infirmary on Feb. 14th, Dr. W. Duigan, the President, being in the chair.—Mr. A. P. Dodds-Parker showed the following series of cases of Fracture treated by modern methods: 1. Fracture of upper end of humerus in a young man, treated by a Lane plate; perfect result. 2. Fracture of olecranon in a woman, treated by wiring; very good result. 3. Fracture of olecranon in a man, treated by wiring; very good result. 4. Fractured femur in a boy, treated by a Hodgen's splint; perfect result, no shortening. 5. Fractured tibia in a man, treated by a Lane plate; there was delayed union and much callus, but a good result. 6. Fractured humerus of the middle third in a man, treated by a Lane plate; good result. 7. Fractured tibia and fibula in a man, treated by a Lane plate for non-union; good result. 8. Fractured patella in a man, treated by a wire and a Lane plate; good position of the patella, and walks well. 9. Fractured ulna and radius in a man, treated by a Lane plate; good result. All the cases were illustrated by X ray photographs before and after, taken and demonstrated by Mr. R. H. H. Sankey.—Dr. W. J. Turrell then showed a case of Lupus of the Cheek in a woman who had had no treatment for 12 years, whom he was in process of treating by

diathermy. Five applications had been given and the effects of various intensities of the treatment were demonstrated in a piece of fresh liver tissue.—Dr. W. Collier related the histories of two unusual cases of Diphtheria: the first in a woman, aged 28, who entered the Radcliffe Infirmary for chorea of pregnancy. The patient became maniacal, and as the child was viable labour was induced. The patient recovered from this, but had a parotid abscess in which staphylococci were formed. Later, six weeks after her entry into hospital, her voice became husky, there was respiratory stridor, and she died. At the post-mortem examination a diphtheritic membrane in which B. diphtheriæ was found extended from the vocal cords to below the bifurcation of the trachea. The second case was a nurse who had been in attendance on a very bad case of septicæmia, the nature of which had not been exactly determined. The patient subsequent to leaving the case developed a high temperature, great cyanosis, and rapid failure of strength. There were a few râles in the chest and some sputum in which B. diphtheriæ and numerous cocci were found but none of the ordinary clinical signs of diphtheria. Antidiphtheritic serum was without effect. At the post-mortem examination diphtheria bacilli were found in the mucus of the trachea and smaller bronchioles. The lungs were œdematous and partly solid, but did not sink in water; no other lesions were found.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Feb. 28th, Dr. J. F. Dobson, the President, being in the chair.—Dr. W. Cuthbert Morton read a paper on the Present Crisis in Anatomical Nomenclature. The Basel nomenclature, which was promulgated by the German-speaking anatomists in 1895, had made such progress in America and the Colonies, and even in Britain, that the Anatomical Society had been forced to discuss its adoption, not merely as an international code, but for ordinary use. There were grave objections to the Basel nomenclature. It did not claim to be more than a list of names acceptable to German-speaking anatomists, and requiring to be submitted to anatomists speaking other languages. In spite of much that was excellent, the principles on which it was based were not scientific, and it did not sufficiently regard the needs of medicine and surgery. Moreover, in some respects it was not up to date. Dr. Morton, therefore, pleaded for a commission of British anatomists and teachers of final subjects to prepare a complete British nomenclature as far as possible in harmony with the Basel nomenclature. An international conference might then be called to evolve a truly international nomenclature. He rapidly reviewed the principles upon which such a nomenclature should be based, and sketched out the manner in which these principles might be applied to the abdominal cavity and its contents.—Mr. J. Stewart showed specimens from six recent abdominal operations illustrating the difficulties of diagnosis.—Mr. Alexander Sharp showed a specimen of Squamous-celled Carcinoma of the Larynx.—Mr. G. Constable Hayes showed a specimen (with photograph) of a large Osteoma which caused secondary mastoid disease in a case of suppurative otitis media.—Mr. Walter Thompson exhibited a large Malignant Tumour of the Bladder which had been successfully removed by a wide operation. Recurrence of the growth had, however, taken place after an interval.—Dr. C. W. Vining showed a case of Hysterical Stupor which was improving under treatment.—Mr. H. Littlewood showed a specimen of Tuberculous Mesenteric Glands which he had removed by operation. There had been a sinus communicating with the surface, and he had removed the sinus, glands, mesentery, and associated loop of bowel, performing an end to end anastomosis. The patient had made a good recovery.—Cases and specimens were also shown by Dr. J. B. Hellier, Mr. L. A. Rowden, Mr. E. W. Bain, and Dr. M. J. Stewart.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.—A meeting of the society was held on Feb. 18th.—A discussion on Puerperal Eclampsia was introduced by Dr. E. W. Sharp. He defined the term, insisting that the "fit" was a common symptom, and not the whole disease. This was a toxæmia in which certain well-marked pre-eclamptic manifestations, notably headache, disturbance of vision, swelling of face and of extremities, and diminution in amount of urine, were commonly observed. The condition was quite distinct from uræmia and albuminuria, and the toxin was not microbic. It had been shown to be akin to certain venoms in that it contained the same five elements, thrombotic, hæmolytic, hæmagglutinative, endotheliolytic, and neurotoxic. Although eclampsia was apt to recur in subsequent pregnancies it did not result in permanent nephritis. It occurred in sterile molar pregnancies as well as in normal ones. It was believed by some to be due to imperfect balance of the internal secretions, those of the suprarenal and pituitary being increased, as evidenced by high blood pressure, a prominent feature of the disease, and that of the thyroid diminished. The retention of the poisonous products was, according to authorities, favoured by nitrogenous food, bile, intestinal putrefaction, and toxins were due to metabolism of maternal and fœtal cells. Prophylaxis was of the greatest importance in preventing the eclamptic attacks; when premonitory symptoms occurred rest, a strict milk and vegetarian diet, and a daily action of the bowels were essential. When the attacks occurred Tweedy's methods were to be followed. The avoidance of external stimuli, the use of morphia, elimination of toxins by lavage of stomach and colon were important measures. A concentrated solution of magnesium sulphate should be left in the stomach and a pint of bicarbonate solution in the rectum. Attempts should be made to lower the blood pressure; in many cases venesection was valuable, as was veratrum viride or nitro-glycerine. Where intravenous infusion became necessary bicarbonate solution was better than normal saline. If swallowing were possible frequent draughts of water should be given, but no food. Diaphoresis was not recommended, and lumbar puncture was useless. Dr. Sharp was not in favour of inducing labour. When it occurred it should be assisted, but not forced, natural delivery being preferable to artificial methods. Accouchement forcé was not good practice. When the os would not dilate and pains were strong Cæsarean section was greatly to be preferred.

Reviews and Notices of Books.

Manual of Human Embryology. Edited by FRANZ KEIBEL, Professor in the University of Freiburg i. Br.; and FRANKLIN P. MALL, Professor of Anatomy in the Johns Hopkins University, Baltimore, U.S.A. Vol. II. With 658 illustrations. London and Philadelphia: J. B. Lippincott Company. 1912. Pp. 1032. Price 30*s.* net.

EVERYONE who has to study embryology from whatever aspect—and there are many—can but be deeply grateful to those writers who have contributed to make this work so great a success. It is a compendium of practically all that is known regarding the development of the various organs of the human body. Moreover, the literature is given so copiously that whatever is not fully set forth in the text can easily be traced in the original papers. The illustrations are a most commendable feature of an undertaking of very great scope. The following are the subjects the development of which is dealt with in succession:—The Nervous System, by G. L. Streeter; Chromaffin Organs and Suprarenal Capsules, by E. Zuckerkandl; Sense Organs, by F. Keibel; Digestive Tract and Respiratory Organs, by O. Grosser, F. T. Lewis, and J. P. McMurrich. It should be noted that to Professor McMurrich is due the excellent translation of the chapters by Keibel, Felix, Tandler, and Zuckerkandl. C. S. Minot, H. M. Evans, J. Tandler, and F. R. Sabin are responsible for the chapter on the Blood, the Vascular System, and the Spleen, while W. Felix deals with the Urogenital Organs. Professor Keibel, at the conclusion of the volume, devotes a short chapter to the Inter-relation of the Various Developmental Processes. The subject index is particularly full. There is also an index of authors.

The story of the development of the nervous system is a masterly section and might well be reprinted as a separate monograph for those who are specially interested in this subject. It has also a particular interest for physiologists, apart altogether from the morphological side which is dealt with in a text-book on embryology. The experiments of Harrison carried out on amphibian larvæ are of the utmost importance in regard to the development, and therefore to the regeneration, of nerve fibres, for he

showed that no peripheral nerves would develop in an embryo in which the nerve centres had been destroyed. Moreover, axis-cylinders will develop and extend out in the surrounding tissues in the normal way, and will reach their normal length where the sheath cells of Schwann have been eliminated. Nerve fibres also, when the environment is modified, may under certain conditions establish completely foreign connexions. The vast importance of what Ranvier pointed out as the method of "pushing"—i.e., as regards growth—is well illustrated both in the text and by the reproduction of some of Harrison's figures. It is an immense stride to be able to grow ganglion cells outside the body in such an organic medium as clotted lymph, where all contributions on the part of other living tissues are eliminated. Indeed, by direct inspection, the growth of a nerve fibre from a ganglion cell as it develops hour by hour is an objective reality. As to the "myelinisation" of nerve fibres, at least where human material is concerned, there is no adequate description yet available. The pig and sheep so far have formed the basis of our knowledge on this subject. We commend to the consideration of neurologists and embryologists the diagrams showing the reconstructions of parts of the nervous system obtained by a careful study of sections of embryos at different ages.

As to those small but wonderfully potent organs grouped under the rather obscure title "chromaffin organs," no better choice could have been made to explain their development from their original "anlagen" than Professor Zuckerkandl, of Vienna. Professor Keibel's account of the sense organs is particularly painstaking and full of detail, as is to be expected from one who himself has contributed so largely to this subject. The illustrations are particularly well reproduced. Especially interesting is the account of the progression and retrogression of certain vessels in connexion with the formation of the eye. Apart altogether from the morphology of the digestive system, the histologist will find much to interest him in the chapter on the development of the digestive tract, more especially as regards ciliated epithelium. Every teacher who has to set forth to his students the development of the intestinal canal should take cognisance of the models referred to in the Harvard collection, illustrations of some of which are given by F. T. Lewis. When we turn to the chapter on the blood we are told by Professor Minot that the scientific interpretation of the theme, as viewed from the clinical standpoint, leaves much to be wished. According to Professor Minot, to clinical writings we owe a confusing nomenclature of the blood corpuscles which sins against every morphological principle. We are glad to read such a comprehensive account of the all-too-much-neglected lymphatic system—a system so easily demonstrated to the student, at least as regards its main tracks. We particularly commend Miss Sabin's contribution on this subject to surgeons and physicians.

We have said enough to show how interesting and directly practical is this comprehensive and up-to-date contribution to the ever-advancing subject of embryology, and in saying so we wish to thank the authors as well as the publishers for the successful issue of their joint enterprise.

Patologia e Terapia Chirurgica dei Calcoli della Vescica Urinaria. By Dott. MARIO SCHIAVONI, Professor of Surgical Pathology in the University of Padua. With a Preface by Professor D. B. RONCALI. With 134 illustrations. Turin: Unione Tipografico-Editrice. 1912. Pp. 592. Price 15 lire.

Professor Schiavoni has limited the scope of his extensive treatise to calculus of the bladder, and the work, if only owing to its size, will at once occupy a prominent place in modern literature on this subject. The physical characteristics of calculi are first dealt with, and examples and woodcuts are given of unusual forms. Spontaneous fragmentation is described at length. Various theories of its causation are discussed by the author, who is of opinion that the explanation is to be found in segmentation of the calculus, that all the theories afford a true solution in some circumstances but not in others, and that further actual experiments on fresh, recently extracted calculi are necessary.

Chapters are devoted to the structure of calculi and the various foreign bodies which may cause their formation. Urinary sediments and the chemical constituents of calculi are investigated, the researches of Golding-Bird, Marcet, Henry and B. Smith being largely quoted. The chemistry of these constituents is fully dealt with, as is also the technique for investigating them. The etiology of cystolithiasis is the subject of two chapters, and the part played by heredity, age, sex, occupation, climate, and food, also its relation to other conditions such as bilharzia, echinococcus, actinomycosis, gout, renal infarcts, osteomalacia, and phosphaturia. Stress is laid on the greater frequency of oxalate of lime calculi in children; the influence of poverty and squalor which compel a diet largely vegetable is alluded to as well as the use of acid and fermented beverages containing a considerable proportion of oxalic acid. Attention is also drawn to Ebstein's theory of the frequency and importance of renal infarcts in children. The part played by diathesis is not so much a predisposition to the formation of calculi as a contributory to their chemical constituents. An analysis is given of all the theories of calculus formation, from that of Mariano Santo in the fifteenth century to the present day, including those of Heller, Ultzmann, Meckel, and Ebstein. The author's own opinion is that the origin both of primary acid and alkaline lithiasis may be either renal or vesical, the former being more usual; secondary lithiasis, however, has more frequently its origin in the bladder.

A very interesting group of subjects is well treated in Chapter IX., dealing with the pathological anatomy of cystolithiasis, in which are minutely described the anatomical changes in the urinary bladder when affected by stone. It includes bacteriuria, acute and chronic cystitis, pericystitis and leucoplasia, which are treated at much greater length than in most works on diseases of the bladder, vesical ulceration and fistula, tuberculous and bilharzic cystitis, diverticula and hernia; the relation of neoplasms to calculi is also adequately discussed. In the part dealing with the symptoms and diagnosis of calculus, Guyon's sound is recommended for exploration. Radiography is advocated only for children and as a supplementary method, since absence of any shadow excludes the presence of only oxalic and phosphatic calculi. As regards prognosis, the author draws attention to the gravity of stone as a complication of pregnancy, for it possibly induces rupture of the uterus; he does not, however, give any statistics or cases in support of this view.

An interesting chapter is that on the history of the methods of cutting for stone from the remote times of surgery to the present day, methods known to the Indians, as shown by the *Ayur-Veda*, but probably unknown to Egyptian and Jewish surgery. After an introductory chapter on the anatomy of the perineum, amply illustrated by woodcuts after Testut, perineal cystotomy is described, as well as the operations of median and lateral lithotomy as performed by Civiale, Dupuytren, Nélaton, Albarran, Montenovesi, Sanson, and others. A critical comparison, written with excellent judgment and impartiality, sums up in favour of Montenovesi's technique. There is a clear and concise description of perineal cystotomy, profusely illustrated, and a chapter on after-treatment

and complications such as incontinence of urine and complete sterility. In two chapters are described the suprapubic operation, both by longitudinal and the transverse incision of Ledran, and the modifications introduced by Legueu, Vidal de Cassis, and Langenbuch; of these the author considers the last two incontestably the best. Drawing a comparison between the suprapubic and perineal operations, he gives the preference to the former as offering the greater advantages in dealing with large stones. Lithotripsy and litholapaxy are described, a number of lithotrites and accessory apparatus being figured. On the question of local *versus* general anæsthesia the author advises for obtaining insensibility of the bladder irrigation with 5 per cent. antipyrin, or 1 per cent. stovaine in quantities of 50 c.c. Dolbeau's perineal lithotripsy is described in a separate chapter; the mortality being the same as that of ordinary lithotrity, the author considers that it offers advantages in crushing large stones. A comparison is drawn between lithotrity, perineal and suprapubic lithotomy, and a table is given showing the relative mortality of each in the hands of continental operators. The average works out in favour of perineal lithotomy. Professor Schiavoni, without laying too much importance on these statistics, considers that they establish the superiority of perineal lithotomy, notwithstanding the difficulties of its technique and the danger of wounding vessels, and do not justify the present prevalent neglect and distrust of this operation. He maintains that the suprapubic method is preferable on the whole, but that this furnishes no adequate reason for banishing the perineal operation, which when well performed is eminently suitable for small calculi and for cases of chronic cystitis, and, moreover, can be followed by perineal lithotripsy which gives the best results in unfavourable circumstances and has a mortality less than that of lithotrity alone.

We have nothing but praise for the way in which the author has carried out this important work, while the type and woodcuts are admirable.

Monaco and Monte Carlo. By ADOLPHE SMITH. With eight reproductions in colours from drawings by CHARLES MARESCO PEARCE, and with 48 illustrations in black and white. London: Grant Richards Co. Philadelphia: J. B. Lippincott Co. 1912. Pp. 477. Price 15*s.* net.

To most people, including the small proportion of English who go there once or oftener in their lives, Monaco and Monte Carlo stand only for pleasure, and especially the form of pleasure that is typified by roulette and trente-et-quarante. It is well, therefore, that they should learn that the little Principality fosters interests of a beneficent character to a degree so out of proportion to its size. The larger nations, which affect to despise it as a "sink of iniquity," living by plundering its visitors, may feel somewhat shamefaced to know that in this small Principality more money, proportionately speaking, is spent on local government, on public works, on the promotion of original research, and on the arts and sciences, than is the case in any other part of the world. We have a right, all of us, to our views as to the way in which the money is got, but there cannot be two opinions as to the way it is spent. This more serious side of Monaco has recently been brought forward in Mr. Adolphe Smith's fascinating book, which covers the entire field of knowledge concerning the Principality of Monaco and the town of Monte Carlo. Individual books and reports, it is true, dealing with the separate subjects of historical, archæological, artistic, and especially scientific interest, connected with or assiduously cultivated there, have been published, but these are essentially technical works intended for technical readers especially interested in the particular subjects and not for general reading. Mr. Adolphe Smith, we believe, is the first author to bring together within the compass of one book the historic, and even the prehistoric, data of this ancient Principality, the general and scientific characteristics and attainments of its present reigning prince, a bird's-eye view of the work in oceanography, anthropology, and archæology fostered and pursued by him in person and of the political and social economy of the Principality, its sanitary and industrial conditions, its cultivation of the fine arts, and its increasingly prominent place as the home of international congresses, as well as the one feature for which it has hitherto mainly stood in the world at large—viz., its facilities for gambling. The book is divided into two parts, the first of which deals with the historical, scientific, economic, and medical aspects of the Principality; the second is devoted to the subject of gambling generally, its development at spas, and its culmination at Monte Carlo.

The fortunes of the Grimaldis, to which ancient race Prince Albert, the reigning Prince of Monaco, belongs, form a romance that is fascinating reading to anyone with a taste for history. The politics and internal economy of the sovereignty, though it is so small a one, are not negligible, for this little state has served as a laboratory where practical legislative and other experiments have been and are being made, that serve as educational demonstrations for the benefit of many nations. With the principles and policy of a Prince, also, who, while inheriting upwards of seventeen hereditary titles and dignities, yet takes his greatest pride in those that mark the distinction he has won for himself in the realms of scientific investigation, we must needs be interested, and it is around Albert of Monaco, Membre de l'Institut, that the interest of the first part of the book mainly centres. A practical sailor, he has devoted the greater part of his industry to furthering the development of oceanography. It was he who established and endowed the Museum and Institute of Oceanography, the foundation stone of which was laid in Monaco on April 25th, 1899, and who later, in 1906, contributed to the University of Paris a sum which formed a considerable part of the capital required by it to purchase the land needed by the Sorbonne for its extension. In return the University granted him a site on part of the new estate on which was erected the Oceanographic Institute, founded by him and endowed with a working capital of 4,000,000 francs. This institute is devoted to the study of the geography, geology, hydrology, biology, zoology, and bacteriology of the sea; and to it has also been given the ownership of the before-mentioned Oceanographic Museum at Monaco, with its laboratories, collections, and aquariums. This institute is an autonomous and independent establishment in full possession of civil rights. In the museum at Monaco are stored the results of 24 different maritime explorations made by the Prince himself up to the beginning of 1912, and extending from Spitzbergen to Cape Verde Islands; and vertically upwards with balloons to a height of 43,400 feet, and downwards to a depth of 23,000 feet below the sea surface. The author describes with clearness and detail the treasures of the museum, as well as the anthropological and other scientific researches made and fostered by the Prince.

The portion of Mr. Smith's book that will undoubtedly interest medical men more directly is the chapter on Monaco, Medical and Sanitary. A discussion of its climate, drainage, slaughtering, water-supply, and hospital (described and illustrated by the author in THE LANCET[1] at the time of its inauguration) concludes the first part of the book. An

[1] THE LANCET, May 6th (p. 1229) and 20th (p. 1384), 1911.

admirable institution is the Casier Sanitaire—a small case or portfolio for every house, containing its plan and sanitary services, the number of its rooms, its cubic space, the nature of its water-supply, and the trades carried on therein. Into this portfolio particulars of deaths, diseases notified, disinfections, and other valuable sanitary and economic information are put, thus constituting it a continuous record of each house for the sanitary authority. Of the model hospital we learn that in 1911 267 operations were performed, with only 3 deaths, giving an operative mortality of 1·1 per cent., while the general mortality was 5 per cent.

The second part of the book is devoted to the Casino, to the gaming tables, looked at from various points of view, to the theatre, the pigeon-shooting and other sports, the orchestra, &c. Mr. Smith gives an ample and interesting account of trente-et-quarante and roulette, of the modes of play, systems, and superstitions of gamblers, the regulations of the Casino, and the mechanism and properties of the roulette wheel. But full of interest as this part is we cannot discuss it here. We do feel called on, however, to refer to the chapter on "The Suicides." The absurd but often repeated slander that the suicides at Monte Carlo amount to one a day carries its own refutation. Mr. Smith demonstrates beyond contradiction that if that statement had been true at the time it was written, even when calculated in regard to the number of visitors who entered the gaming rooms, not merely of the 4000 residents, it would amount to a suicide death-rate alone of 18 per 1000. As the legal requirements for burial are as strict in the Principality and as strictly enforced as in France, such a condition would have convulsed Europe if it were known to be correct. And it could have been concealed only, if at all, by the connivance of the entire medical profession of the Principality, all of whom, even the native Monegasque doctor, are graduates of foreign medical faculties, which bodies would strike their complacent members off the registers for infamous conduct if they were detected in systematically issuing false death certificates. But Mr. Smith does not stop there. He shows by photographic reproduction of the official mortality statistics, which conform in every respect to the demographical rules internationally established, that the total deaths from all causes for 1911 were only 319. There were 13 suicides, a maximum record, and of these Mr. Smith establishes the fact that at most only eight were possibly actual gamblers; for the remainder took place among residents of the poorer classes, and no resident is allowed to enter the gaming rooms. As 194,000 persons were admitted to the gambling rooms in the year, this gives a ratio of 0·036 per 1000, or one suicide out of 24,250 gamblers; while the remaining 5, occurring among the 20,000 residents, who are not allowed to play or even admitted to the gambling rooms, give a suicide rate of about 0·26 per 1000, or one suicide to every 4000 non-gamblers. Why, Mr. Smith asks, should there be more than twice as many suicides among the inhabitants of the Principality who are not allowed to gamble, as amongst the inhabitants of London? The climate was suggested to him as accounting for this high suicide rate, and accordingly he obtained from M. Bertillon the death-rate from suicide per 1000 inhabitants of eight towns on the Riviera, together with those of Paris and London. From these figures he shows a Riviera suicide rate of 0·230 per 1000 upwards (Toulon, 0·326) in six of the Riviera towns and Paris (0·246), while only two (Grasse 0·099 and Antibes 0·085) compare favourably with the suicide rate of London (0·090) for the same period. Two outstanding facts, therefore, are that the suicide rate among the gamblers at Monte Carlo, all of whom are necessarily transient visitors to the Principality, is less than one-half of that of London; while the suicide-rate of permanent residents on the Riviera generally, including Monte Carlo, and in Paris, is nearly three times that of London.

All who have enjoyed Monte Carlo, or the Riviera generally, can read this book with interest from cover to cover, while those to whom history, politics, oceanography, anthropology, or games of chance, whether from the standpoint of the player, of the student of philosophy, or the social economist, make special appeal, will find abundant matter for their respective consideration. The book is admirably got up and illustrated.

Law for Medical Men. A Book for Practitioners containing Extracts from Acts of Parliament interesting to Medical Men. By FRED. J. SMITH, M.D. Oxon., F.R.C.P. Lond., Physician to the London Hospital. London: J. and A. Churchill. 1913. Pp. 414. Price 10*s.* 6*d.* net.

IT is to medical men and not legal practitioners that the subtitle of Dr. Smith's volume refers, and it is for the benefit of the former that it has been compiled. A medical man may well need to obtain a general idea of the law which should govern his conduct in a particular matter and of the wording of a section or of a form which has to be followed in a document for which he is responsible. A lawyer requires a more precise exposition of the law with references to such decisions of the courts as may lay down the accepted interpretation of an Act of Parliament.

Dr. Smith does not cite cases; he quotes from an extraordinary number of statutes and regulations, appending notes in which he discusses them from a somewhat personal point of view, using the personal pronoun "I," and as a result he has produced a useful general guide to his subject rather than a legal text-book. It may also be mentioned that he has interpreted "the law for medical men" in a wide sense, quoting, to take an example, within a few pages of one another passages from the Infectious Diseases Notification Act, 1889, which obliges medical men to notify infectious disease, and which otherwise directly concerns them in their practices, and from the Criminal Law Amendment Act, 1885, the words by which sexual intercourse with a female idiot, with knowledge of her mental condition, but in circumstances not amounting to rape, is constituted a misdemeanour punishable by two years' imprisonment. The subject in the latter case is one which may become of interest to a medical practitioner owing to his having to give evidence at the trial of a criminal charge, but this he may have to do as the result of the infringement of other sections of the same Act and under many conditions of equal importance.

We have said that Dr. Smith does not cite decisions of the High Court, and he is wise in abstaining from doing so in a work not designed as a book of reference for lawyers or for persons having law reports to refer to. It is a little difficult, however, to condense successfully the law upon questions which have caused a considerable amount of discussion in the courts, and it would not be wise to accept too brief a summary without further investigation where any act of importance depended on the inquiry. At p. 307 we find: "One principle has been laid down by the courts in reference to the words 'obstructs the examination' which is this: that an injured workman has no right to claim the attendance of his legal adviser, nor, indeed, of his medical attendant, at the examination by the 'medical inspector,' and refusal to be examined without the presence of either or both of these gentlemen is held to be 'unreasonable' and to warrant suspension of payments." The quotation is from a chapter discussing points in which the author criticises the action of the British Medical Association in a matter which need not here be referred to, but the allusion is to examinations of a workman made on behalf of his employer under the Workmen's Compensation

Act, 1906. With regard to this the latter portion of the passage quoted is not, strictly speaking, correct. The desire of the workman to impose the conditions referred to has been held to be unreasonable in the county court, and such a decision has been upheld in the courts above, but cases have been decided both ways, and the last word on the subject must be deemed to be that of Lord Loreburn in Morgan *v.* Dixon (1912) when he said, "Whether or not one side or the other has acted reasonably in a particular case is a question of fact in that particular case."

In commenting (p. 200) upon the Inebriates Act, 1898, and upon medical evidence as to drunkenness given with a view to establishing that an offence was committed "under the influence of drink," or that "drunkenness was a contributing cause of the offence," Dr. Smith expresses the opinion that a medical witness's evidence should be confined to proving the fact of the accused having drunk some intoxicating liquor. He holds that it is for the court then to decide, after hearing all the evidence as to the manner and conduct of the person charged, whether he would have acted as he did if he had not taken the liquor. Dr. Smith considers that this would throw the onus on the court in such cases and prevent conflicts of evidence. We gather that Dr. Smith desires thus to restrict medical evidence as to drunkenness only in those cases where an offence is charged as having been committed "under the influence" of drink, for we do not see that the evidence of a medical man could properly be confined to the mere fact of the recent consumption in a case where, for example, the offence of being "drunk and incapable" was alleged. On such an occasion there would naturally have to be medical evidence of the incapacity being due to drink and not to illness.

Dr. Smith's work contains a good deal of useful information rendered more accessible by the index to which he invites his readers to refer.

The X Ray Treatment of Skin Diseases. By Dr. FRANK SCHULTZ, of Berlin. Translated by JAMES BURNET, M.A., M.D. Edin., M.R.C.P. Edin. London: Rebman, Limited. 1912. Pp. 164. Price 12*s.* 6*d.* net.

IT may be taken as an axiom that the probability of a structure being influenced, favourably or otherwise, by one or more exposures to the X rays depends almost entirely on its proximity to the surface to which the rays are applied. It thus follows that it is in the treatment of diseases of the skin that the X rays have found their greatest usefulness as a therapeutic agent, and that a proper knowledge of the effects upon the skin is essential as the first and most important step in the study of radio-therapeutics; the more so when we consider that it is impossible to make any X ray application in which the skin is not more or less directly concerned. It is on account of these facts that the volume under consideration will surely be welcomed by all those who are interested in dermatology, as well as by radiologists.

In the preparation of this work the author has drawn on his enormous experience gained at the Light Institute of the Royal University Policlinic for Skin Diseases in Berlin, where over 15,000 irradiations are given annually. The chapters on apparatus and technique are very useful and will be found helpful, even to experienced radiologists, as regards many details, especially in the management of the X ray tube. One of the most interesting sections is that dealing with the author's experiments for adjusting the quality of the rays to the absorptive capacity of the tumour or other tissue to be treated. This phase of radiology is of the highest importance; it is likely to have far-reaching results, and it is to be hoped that much more work will be done in this direction. To the use of filters in the treatment of skin diseases the author is distinctly opposed, and if he means filters composed of metal we are disposed to agree. We do not, however, quite see how by drawing back the focus farther from the skin, the same amount of (? hard) rays *is compressed into a smaller space in the deep parts.* (See p. 88, the italics are ours.) We have always understood that the intensity of the radiation diminished as the square of the distance. We think the use of a non-metallic filter is a better method of securing a preponderance of "hard" rays.

As might be expected from one of such extensive experience, the author has evolved a system of X ray treatment that has many excellent points, and we think it will be found to give good results in practice—at least, so far as we have been able to put it to the test it has come up to expectations. The chief difficulty is that of measuring the fractional doses with sufficient accuracy, but that is not beyond the resources of the experienced radiologist. The section of special therapeutics is of immense value and interest. It is very fully illustrated, and proves eloquently how far the X rays have supplanted pharmacological methods in the treatment of diseases of the skin.

Syphilis und syphilisähnliche Erkrankungen des Mundes für Aerzte, Zahnärzte und Studierende. Von Prof. Dr. F. ZINSSER, dirigierendem Arzt der Abteilung für Hautkranke der städtischen Krankenanstalt Lindenburg, &c. Berlin und Wien: Urban und Schwarzenburg. 1912. Pp. 146, and 44 plates. Price, paper, 15 marks; bound, 17.50 marks.

THIS book is founded on some lectures and demonstrations which the author gave a short time ago to dentists; they are published, as he felt that it was advisable that dentists should be acquainted with syphilitic manifestations in the mouth. The book consists of two parts, in the former of which an account is given of the various stages of syphilis, both of the acquired disease and of the congenital form, with special reference to those manifestations which appear in the mouth. This part is clearly written, and is likely to be useful, but the more valuable part of the work is the collection of illustrations that delineate accurately syphilitic affections of the mouth. Most of these illustrations are coloured, and give an exact idea of the lesions. The coloured plates are taken from wax models. The work is likely to prove very useful to all medical men, but especially to dentists, who have many opportunities of recognising syphilitic manifestations in this region and of urging the necessity for medical treatment.

Psychotherapy, including the History of the Use of Mental Influence, Directly and Indirectly, in Healing, and the Principles for the Application of Energies derived from the Mind to the Treatment of Disease. By JAMES J. WALSH, M.D., Ph.D., Dean and Professor of Functional Nervous Diseases and of the History of Medicine at Fordham University School, New York. London and New York: D. Appleton and Co. 1912. Pp. 806. Price 25*s.* net.

THIS book on psychotherapy is the work of a cultured physician, who has had considerable experience in the subject and has reflected much on its problems. The keynote of the book, we think, is to be found in the sentence quoted with approval by Dr. Walsh from old Dr. Parry of Bath: "It is much more important to know what sort of a patient has a disease than what sort of a disease a patient has." Dr. Walsh has made the attempt to write a text-book on the whole subject of psychotherapy, using the word in its widest sense, and has endeavoured to systematise the application of psychotherapeutic principles to organic as well as to functional diseases. The chapters on the psychotherapy of organic nervous disease will well repay perusal. We are prone to forget nature's

powers of regeneration and compensation, though we see evidences of it constantly in practice, and Dr. Walsh enters an eloquent plea for the desirability of keeping the patient with chronic organic disease in just as good condition of body and favourable condition of mind as possible for a prolonged period. He emphasises the truth, with which every physician who has to deal with chronic cases is familiar, that these patients suffer from the serious burden of realising that their condition is incurable. But while nothing can be done for the disease itself, much, very much, can be done for the patient. If symptoms extraneous to the underlying disease can be assuaged, it will not surprise that the patient should think himself bettered; life will seem again to have something in it worth living for, and it would be hard to persuade him that some change has not come over his disease.

No doubt these truths are, in a sense, a commonplace to the successful practitioner, but Dr. Walsh has a fresh and stimulating way of retelling them which we find very attractive. One of the most telling chapters in the book deals with the individual patient, and there are few who will not find helpful and instructive hints in these closely packed pages. An important element in diagnosis and treatment is detailed knowledge of the patient's ways and modes of thought. As Dr. Walsh says, every motive and every action of the day must be scrutinised; in fact, it is a good plan to begin with the getting up in the morning and to work steadily through the patient's doings during his waking life. Dr. Walsh's examination of these details is tempered with insight and a shrewd knowledge of human nature. But we are not sure that he has not allowed himself to be influenced by the accepted facts of the control of the mind over the bodily functions to such an extent that he occasionally minimises the genuine physical effect of a particular line of treatment. Thus: "For some years after the discovery of radium we were inclined to think that it must have some wonderful application in medicine and in surgery, and we actually secured many good results until its suggestive value wore off." This is not, we consider, a complete explanation of the facts. Dr. Walsh declares that at Lourdes "there is more than natural power manifest." In view of the fact that many hold a contrary opinion, the details of even one case, independently investigated under rigorous scientific conditions by a competent neurologist, such as Dr. Walsh, would be worth much more than a generalisation of this sort. Reference is made to the recent work of Dr. H. Head and Dr. G. M. Holmes on the optic thalamus, but we consider that Dr. Walsh's remark that they have shown "certain definite and very marked manifestations of *dualism of disposition* (italics our own) consequent upon lesions in the optic thalamus" attributes too much to their investigation and is rather a misreading of their position.

We can cordially recommend this book as a contribution to the subject of psychotherapy, one of the few which is characterised both by knowledge and by a due exercise of the critical faculty. Although it is a long book it is never dull or prosy: the aptness of the illustrations and a pleasant, readable style are calculated to appeal to student and practitioner alike.

Lehrbuch der Augenheilkunde in der Form klinischer Besprechungen. By Dr. PAUL RÖMER, Professor of Ophthalmology, Greifswald. Berlin and Vienna: Urban and Schwarzenberg. 1913. Pp. 380. Price 8 marks, or 9·60 kronen.

THE second edition of Römer's "Text-book of Ophthalmology" has followed the first, published in 1910, quickly. In the meantime we have had to review the first volume of the English translation. The opportunity has been taken in this edition of greatly improving the style and convenience of the book. It is now issued in two volumes. Much of the verbal diffuseness consequent upon the lecture form has been eliminated, so that it reads much more easily, and the size has been reduced by 200 pages without loss of any important material. Facility of reference has been increased by the excellent plan of marginal notes on the contents of the paragraphs. The general arrangement of the chapters is now more logical. The illustrations in the text now number 268, as compared with 186 in the first edition. Many have been reduced in size, some not without a certain loss of important detail. The coloured plates have been increased to 32, as compared with 13; they include figures of external diseases, ophthalmoscopic conditions, and microscopical specimens, and are for the most part very good. We have not noted any material change in the matter of the text. We can recommend the book warmly, especially as some of the defects to which we drew attention have now been removed.

Mind and its Disorders. A Text-book for Students and Practitioners. By W. H. B. STODDART, M.D. Lond., F.R.C.P. Lond. Second edition. London: H. K. Lewis. 1912. Pp. 518. Price 12*s.* 6*d.* net.

THIS is the second edition of Dr. Stoddart's work on insanity. Some alteration has apparently been found necessary in almost every chapter owing to the amount of research work that has been performed in the field of psychiatry since the first appearance of the book. The net result has not, perhaps, been large or at all striking except in the domain of morbid psychology. A chapter on the psychopathology of the Freudian school now appears, and shortly, though adequately, sets forth its outstanding concepts. Part I. of the work consists of a hundred pages of normal psychology, and, whilst interesting, largely serves to illustrate the slenderness of the tie between this subject and the practice of psychiatry. Part II. is devoted to the psychology of the insane, and is largely an account of the general symptomatology of insanity; while Part III. is concerned with the several groups of symptoms which it has been found convenient to separate and to name by various appellations.

The favourable general estimate which we formed in reviewing the first edition we can now with pleasure endorse.

Veterinary Toxicology. By G. D. LANDER, D.Sc., F.I.C., Professor of Chemistry and Toxicology in the Royal Veterinary College. With 39 illustrations. London: Baillière, Tindall, and Cox. 1912. Pp. 312. Price 7*s.* 6*d.* net.

FOR a long time there has been distinctly needed a work on toxicology dealing with the subject from a clinical standpoint as applied to the domesticated animals, and the veterinary expert of the present day owes a debt of gratitude to Professor Lander for the trouble he has taken to place this book before the profession.

All the common poisons are dealt with, being classified under the respective headings of mineral (inorganic), organic and drugs, and poisonous plants, the latter including several indigenous to South Africa. The arrangement deals with the causes, symptoms manifested, treatment, post-mortem appearances, and chemical diagnosis; and, considering the vast amount of literature which the author has had to wade through, the result is put not only clearly but briefly—sometimes rather too briefly. There is no doubt that when the book comes to a second edition much of the matter will be elaborated, especially the paragraphs which deal with symptoms and treatment. The veterinary practitioner has so many classes of patient, and so many different digestive systems to deal with, that generalised statements cannot possibly be made to fit all. Methods of treatment must be described in detail, for when applied, for example,

to a dog, there are many observations to be made which would not be relevant in the case of a cow or horse. In a book of this kind it is absolutely necessary to combine the experience of many practitioners with the results of laboratory work. We think that on its issue there is certain to be an interest awakened in veterinary toxicology, and this will cause many specific details which are not in this present volume to be reported for publication in the future. The work is needed and is good, but it would have been better had it not been so generalised, especially in regard to the sections upon symptoms and treatment, to which the practitioner will naturally turn first when in doubt.

LIBRARY TABLE.

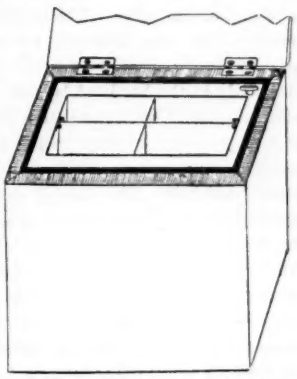
The Care of the Body. By R. S. WOODWORTH, Professor of Psychology in Columbia University. New York: The Macmillan Co. 1912. Pp. 359. Price 6*s.* 6*d.* net.—We learn from the author's preface that "this book is intended chiefly for the young man, and is founded on the belief that an intelligent man, without technical knowledge of medicine, and without excessive attention to the care of his health, can still do much to keep himself in good condition." It is, therefore, a popular work on physiology, and as such can do widespread harm if it is not circumspectly as well as accurately written. In the author's words, it "enters not too deeply into some of the important topics of physiology." On the whole, in our opinion, the book will prove useful to those for whom it is written, though occasionally Professor Woodworth, in his anxiety not to enter too deeply into physiology, has fallen into the opposite error, and writes in too superficial a manner. Thus we think that the statement on p. 76, that starch continues to be acted upon by the saliva in the stomach, is too positive a statement. Its digestion is certainly delayed, and quite probably is arrested. His first chapter, "The Science of Health," is eminently practical, and is an expansion of his remark on p. 10, "If there is any one general rule which is useful in the care of health—call it principle, rather—it is to avoid excesses," but he is also careful to point out that what is moderate for one person may be excessive for another. After the physiological chapters Professor Woodworth considers in a practical fashion such subjects as bodily heat, in which we are glad to see a word of warning against the foolish idea "that you should never wear an overcoat in the house, or you will not 'feel the good of it' when you go out." The proper use and care of the eye, the ear, the muscles, the avoidance of causes leading to neurasthenia, and the judicious use of work, rest, and recreation are next dealt with, while in the three final chapters indulgences (e.g., stimulants and tobacco), the cycle of life, and disease are considered. In the last chapter we note that the credit for definitely proving that anthrax is due to the bacillus anthracis is given to Koch. It is true that Koch was the first to work out the life-history of the bacillus and to cultivate it outside the body, but we think that Davaine, who saw the bacillus in 1850, and in 1873 positively asserted that the "rods" were the cause of anthrax, should have been mentioned also.

Guide to the Medical Schools and Teaching of Paris.—This practical and illustrated guide is published for the modest sum of 50 centimes by Masson et Cie on behalf of *La Presse Médicale*. There is a map of Paris attached, on which all the hospitals and schools that interest the medical profession are printed in red. The date and place of the principal lectures for the year are given, as well as practical details concerning every class and laboratory available to the student, whether French or foreign. We are reminded that not only are all the French clinics open to foreign medical men, but that there are in Paris clinics held in various foreign languages. Thus we have the Anglo-American Medical Society with the Hertford British Hospital, founded by Sir Richard Wallace, 72, Rue de Villiers, and the American Hospital, 44, Rue Chauvau, Neuilly. Then for the Latin languages, notably Spanish, there is *l'Union Médicale Franco-Ibéro-Américaine*, more briefly known as *l'Umfia*, which has its headquarters at 18, Avenue Trudaine. Medical men of the German language forgather at 120, Boulevard Saint-Germain, and those of the Russian language at 4, Place Clichy. All are welcome to profit by the medical teaching for which Paris has acquired world-wide renown. This little guide gives us many details and pictures of the hospitals, laboratories, and institutions that are at the disposal of the medical student.

New Inventions.

A PORTABLE RADIATOR FOR BLOOD CULTIVATIONS.

IN cases of septicæmia in which a cultivation from the blood (basilic vein) must be made for the proof of a circulating organism there is a point in the technique which has not received the attention it deserves. I refer to the desirability of keeping the broth tubes (inoculated at the bedside with the blood) at or nearly at blood heat from the moment of withdrawal until the incubator is reached. This time in practice varies from a few minutes to several hours. Human blood is bactericidal, and if in addition a big fall in the temperature occurs in the blood cultures an additional factor is allowed which is adverse to bacterial growth. This defect in procedure was first pointed out to me some years ago by Dr. H. E. B. Bruce-Porter, and reviewing the cultivations I have done under various conditions for the last seven years, in no case did I obtain so rapid or copious a growth of streptococci as in a case undertaken for him, and in that case the patient was lying a few yards from the incubator, and of course the time for cooling was very brief. In the books one finds recommendations to carry one's tubes in wool warmed before a fire, or in one's coat pockets, or, again, a Thermos flask may be utilised. Since the means of warming should be obtained in a rapid and simple way, I have designed and tested the appliance shown in the accompanying illustration. The apparatus is a felt-lined wood case 8 by 8 by 4½ inches occupied by a metal container, divided into compartments by a sliding partition, and furnished with a buffer of wool or corrugated paper to prevent fracture of tubes on its metal floor. The interior takes 16 tubes of culture media, and the box can be carried in a culture bag.



The best test gave the following result. By means of a funnel, one pint of boiling and a half pint of cold water were poured into the metal container and mixed. The temperature of the experimental fluid (tap water) in the tubes was as follows: 15 minutes after filling, 32·0° C.; 30 minutes after filling, 34·5°; 60 minutes after filling, 37·5° (approximate blood heat); 90 minutes after filling, 35·2°; 2½ hours after filling, 31·0°. By this simple and inexpensive instrument a temperature near blood heat (but not exceeding it) can be quickly secured by the use of boiling and cold water, which are always available when doing blood cultivations. On arrival at the case I first proceed to fill the radiator, and after preparation of the arm the broth tubes are nearly at blood heat.

London, W. CHARLES RUSS, M.B. Lond., M.R.C.S. Eng.

THE LANCET.

LONDON: SATURDAY, MARCH 8, 1913.

The Position at the Royal National Hospital for Consumption for Ireland.

A MOST regrettable situation has gradually arisen in the affairs of the Royal National Hospital for Consumption for Ireland. Differences between the board of governors and the honorary medical officers have resulted in the resignation of the consulting and visiting medical staff. The institution is left without scientific direction. The Royal National Hospital is situated in county Wicklow, 22 miles from Dublin, and was opened in 1896 for the treatment of poor persons suffering from pulmonary tuberculosis in its incipient or early stages. During the 17 years of its existence excellent results have been obtained through its work; the open-air system of treatment was here given one of its earliest and fullest trials, and the work and size of the institution have gradually grown hand-in-hand with its success. But the Board of Management has gradually changed in character. Formerly in the 20 members some medical men were included, but these have dropped out one by one, and at present the affairs of the hospital are solely in the hands of laymen. The honorary medical staff consists of seven consulting physicians and two visiting physicians, together with an honorary consulting surgeon, who are all members of the staffs of different Dublin hospitals. The visiting physicians alternately visit the hospital each week and at other times when summoned by the resident medical officers, of whom there are two. The work of the visiting physicians has year after year received from the Board expressions of thanks and appreciation, and this was perhaps to be expected when the Board became entirely lay in its constitution, as it was clear that such a body would often be at a loss as to the rights and wrongs of a medical question, and dependent for advice as to the proper course to pursue upon their professional staff.

The circumstances leading up to the present crisis, however, show that the Board considers itself able to judge without medical interference upon important medical matters. The story is briefly as follows. In April, 1911, the two visiting physicians attended by request a meeting of the Board in order to express their views on a proposal to invite an outside medical man to try a special treatment for the relief or cure of tuberculosis at the hospital. The project did not commend itself to them or to the only member of the governing body present at the discussion. Six weeks later the board invited the consulting, visiting, and resident medical staffs to consider the desirability of adopting any special treatment at the hospital, including that which was proposed at the previous meeting. The whole medical staff thereupon expressed the unanimous opinion that medical treatment was a matter solely for the medical staff, and that in any case it was undesirable in the interests of the hospital that methods unproved by scientific research should be adopted. No action was then taken by the Board, but in December, 1912, the visiting physicians were informed by letter that the medical man previously referred to had been appointed as an additional physician to take charge, in particular, of insured patients. The reason given by the Board for this step was that owing to the expansion of the hospital the duties of the visiting physicians had outgrown their capacity and that additional help was needed. It may be mentioned here that the visiting physicians had expressed no desire to be relieved of any of their duties, which they had not found irksome in any respect. The visiting physicians accordingly conferred with the consulting medical staff, and jointly with them wrote to the Board expressing surprise at the appointment of an additional visiting physician without consultation with the existing medical staff.

And as in view of the circumstances summarised above the honorary medical officers could not avoid the belief that the new appointment had been made with a view to the adoption of methods of treatment which they had already disapproved of, they felt bound to resign their posts. In reply to their letter of resignation the Board expressed great regret, and earnestly asked the medical staff to reconsider their position. This the medical staff could not see their way to do, but they agreed subsequently to nominate four of their number to meet in conference with four members of the Board, in the hope of adjusting the difficulties which had arisen between the two parties. A friendly conference was held on Jan. 17th of this year, and draft terms of agreement were approved. Under these the medical staff agreed to withdraw their resignations subject to the adoption by the Board of a return to the *status quo ante*—i.e., before the appointment of the additional visiting physician—and a future representation on the Board of Management of at least two members elected annually by the consulting and visiting medical staff. The medical staff further agreed to approve, in the special circumstances which had arisen, the appointment of the medical man in question as pathologist to the hospital subject to the instructions of the visiting physicians. The reply of the Board to this proposal was that these terms could not be accepted, but that they again earnestly asked the medical staff to cancel their resignation. The position has, however, not been changed by this request, and on March 1st the entire honorary staff finally resigned their connexion with the hospital.

Thus the conflict of opinion between a lay board and a body of expert medical men upon what is essentially a professional rather than an administrative matter has deprived an excellent institution of the advice and assistance of Dr. WALLACE BEATTY, Dr. MICHAEL F. COX, Dr. J. MAGEE FINNY, Sir JOHN W. MOORE, Dr. JOSEPH O'CARROLL, and Sir WILLIAM J. THOMPSON, the consulting physicians, of Mr. W. I. DE COURCY WHEELER, consulting surgeon, and of Dr. ALFRED R. PARSONS and Dr. JAMES B. COLEMAN, the

visiting physicians. This loss by itself would be a severe blow to the hospital, but the matter is far more serious than that. Unless the board of governors can set itself right with the medical profession the whole future of the institution is in jeopardy. The resigning medical men have already issued a circular letter to the medical profession in Dublin and neighbourhood, setting forth the history of the dispute and their reasons for the step they have taken. Their object in issuing this statement to their colleagues is to make them "aware of the conditions under which any persons now to be appointed to the medical staff must hold their positions." The correspondence and various statements which we have had before us lead almost irresistibly to the conclusion that the lay board of the Royal National Hospital for Consumption for Ireland has brought this trouble upon its own head, and that no medical staff could in justice to itself, to its profession, and to its patients have acted otherwise.

The Problem of Medical Practice in India.

IN another column (p. 707) our readers will find a detailed consideration of the present position of the medical profession in India from a correspondent who is intimately acquainted with the facts. The multifarious duties carried out by the officers of the Indian Medical Service in its various branches are clearly set forth, as well as the more important conditions under which the work is conducted, and the relations that subsist between this service and the rest of the profession in India. The conclusion arrived at is that, on the whole, the medical provision of the country is efficient and satisfactory, and that from the point of view of the State, as concerned with the health and medical care of the population, no considerable change is required. As regards the interests of the medical profession there are two points of view—that of the Indian Medical Service and that of the body of independent medical practitioners. The latter feel a grievance at the extensive monopoly of lucrative posts held by the former. The former naturally object to any curtailment of the position, privileges, and emoluments, on the faith of obtaining which they have entered the service and devoted their energies to a life's work in India. Our correspondent takes the view that the honourable conditions of service in the Indian army, together with good pay and prospects, and ample leave, would be sufficient to maintain the Indian Medical Service at its present high level of efficiency; and that the liberty of private practice might be withdrawn without injuring that distinguished service, and with advantage to the medical profession and India generally. He considers also that the professorial appointments in the presidency towns should be held by civilian medical men, and not attached, as at present, to some particular civil appointment of the Indian Medical Service.

Our correspondent is probably fully aware—as we ourselves are aware—that such sentiments will be painful to some members of the Indian Medical Service; but other members of that service who have given close attention to a very difficult subject and have accordingly realised the increasing responsibilities of their select body, have already seen that considerable modifications in the present conditions of medical practice in India are desirable, and indeed inevitable. It must be admitted that many officers of the Indian Medical Service are overworked, having more numerous and more varied duties than they can possibly perform satisfactorily; there is no need to give specific instances, they can be found in the official directories. There has been too much concentration of duties, executive, professional, professorial, in too few hands. There are other matters also of administration, such as too frequent changes of station among the junior officers, which need, and doubtless are receiving, the attention of the authorities. But what we feel ought to be regarded as of the chief importance is the maintenance of the existing high standard in the *personnel* of the Indian Medical Service. In saying this we do not mean that the interests of this branch of the public service should be preferred to those of the public service in general; or of the inhabitants of India, whether native or European; or of India itself, the country and the people. We feel convinced that there need be no conflict between these interests. The record of the British rule in India is one of which any nation might be proud, and the medical profession has had its full share in this record. "Peace hath her victories no less renowned than war"; the Indian Medical Service has borne a distinguished part in both. More than any other branch of the public service, the men of the medical department have reconciled the people of India to a foreign government. "The influence of the European physician upon the native races of India has been of an importance, not only great in itself, but great in a proportion probably far exceeding any other; and I venture to think that, if at any time our *raj* in the country came to an end, the influence that would be longest remembered and bear most lengthy fruit would be that exercised by our profession." These are the words of DE CHAUMONT, spoken in 1881, and it is the aspiration of the whole of the medical profession that they should remain true, and that the progress of India should go hand in hand with medical progress.

At the present time the members of the Indian Medical Service are actively engaged in every branch of professional work and scientific research. It would be invidious to mention names, many of which are known throughout Europe as pioneers in all branches of medical, surgical, and sanitary science. Besides these there are very many other workers whose names are not known to fame, but who are spending their lives in the hardest toil, in remote parts of India, often in complete isolation professionally, and with hardly any European comrade. The daily work and responsibility of these men are increasing and unceasing. They make up the main body of the Indian Medical Service. We should look with the greatest regret on any change in the position and prospects of the service which would in any way injuriously affect the status and interests of these members of the profession; or which would in any way deter men of the like high character and attainments from entering the Indian Service, a service which has hitherto attracted some of the best men sent forth from our medical schools, whose subsequent

achievements have been an honour to our race. But when the necessity for change arrives it is imperative to be ready to take full advantage of the new order of things. The Indian Medical Service is not befriended only by those who praise its past achievements. It has equally sincere admirers who desire it to be prepared for developments so that the value of these developments may be attended with a minimum of sacrifice. From which it may be seen that we cannot go all the way with our correspondent, but consider none the less that he has raised questions which will have to be faced in the near future.

The Ambulance Supply of London.

WE recently referred, in commenting upon an inquest held at the City of London coroner's court in January last, to the acute need for ambulances to supply, at any rate, the street and emergency needs of the metropolis. In the case in question it may be remembered that the deceased was taken ill suddenly at the Islington Empire Theatre and was conveyed on an ambulance to St. Bartholomew's Hospital, where he died. More than half an hour elapsed before he was transported where he could receive medical attention. Dr. F. J. WALDO, the coroner for the City, in commenting upon the circumstances of the case, expressed his desire that the London County Council should go into the matter and provide ambulances, mentioning at the same time a common apprehension lest the numerous and various functions of the Council should already over-occupy its time. Some discussion on the question of ambulance service for the County of London took place at the meeting of the London County Council on Feb. 18th, when this very case was under discussion.[1]

The history of the efforts which have been made in the past to provide London with an efficient service is not without interest, and is, indeed, illustrative of the difficulties that always attend any movement which is made to provide a new administration for London, owing to the division of the county services among various authorities who separately undertake branches of work elsewhere devolving upon the one municipal authority responsible for all. London has up to the present time had practically to depend for the removal to hospital of persons meeting with accidents in the streets upon the provision of hand litters kept at various police stations, upon the use of hand litters provided by the Bischoffsheim Ambulance Service, and upon ambulance litters and stretchers provided by the St. John Ambulance Association. There is no uniform or coördinated service which can be depended upon for the prompt removal from all parts of the metropolis of injured persons. The London County Council in 1906 applied to Parliament for powers to establish a much-needed ambulance service, and the evidence given before a Committee of the Houses of Lords and Commons showed the kind of vehicles, often cabs and barrows, which conveyed to hospital persons suffering from serious injuries. The use of these rough conveyances added to the probability that simple fractures would become compound in the act of removal to hospital. The London County Council was then prepared to establish an efficient service by which motor ambulances could be fetched by the use of telephones established in the streets throughout the metropolis. The estimate of the cost was by no means excessive, and the House of Commons was ready to confer the necessary powers on the Council. The City Corporation opposed the Council's Bill, having provided an excellent service in its own area while the subject was under the Council's consideration. In the House of Lords the Council was less fortunate, and for one or another reason its proposals were rejected. The pressing need for the subject to be dealt with in an adequate and comprehensive manner was, however, generally recognised, and it was obvious the matter could not remain in so unsatisfactory a position. Hence the Home Secretary, then Mr. H. J. GLADSTONE, appointed a Departmental Committee which, after hearing evidence, came to the conclusion that such a service as the County Council had proposed was a real necessity, but recommended that its provision should be entrusted to the Metropolitan Asylums Board. There was then some justification for this conclusion, inasmuch as the Managers of that Board had provided an excellent service for the removal of cases of infectious disease from the homes of the patients to the various fever hospitals, and the London County Council had at that time no touch with the subject of ambulance provision. A Bill, however, was introduced into Parliament by Sir WILLIAM COLLINS which gave the Council all the powers it needed, but a change in the constitution of the Council led to the exercise of these powers remaining in abeyance.

Since the recommendations of the Departmental Committee of the Home Office were arrived at the position of the Council has been materially altered. It now possesses an ambulance service for the removal of defective children to the special schools, while a large development of this service is inevitable if economy is to be effected in the provision which is being made for the medical treatment of children attending the ordinary schools. Obviously the treatment centres must be multiplied or facilities given for the conveyance of the children to a smaller number of more distant treatment centres for the purposes of medical attention. It is now proposed to apply to Parliament for powers to enable the County Council, the Metropolitan Asylums Board, and the boards of guardians to enter into agreements for the use for the purpose of any ambulance service which may be established under the Metropolitan Ambulances Act of 1909 of the premises and ambulance appliances of these authorities. This is at the best to provide London with a patchwork service which is not likely to prove efficient. It will fail in the one necessity that the whole service should be vested in one authority, and this is a side of the question which the County Council would do well to consider.

[1] THE LANCET, March 1st, 1913, p. 633.

DEVON AND EXETER DENTAL HOSPITAL.—At the annual meeting of the subscribers to the Devon and Exeter Dental Hospital, the medical report stated that during 1912 the patients attended numbered 2543, making a total of 141,731 since the institution was founded. The financial statement was satisfactory. The committee announces that a new scheme has been introduced in the past three months of providing, at an extremely low cost, artificial teeth for those among the poorer classes who were in need of them.

Annotations.

"Ne quid nimis."

THE DOMINANT NUISANCE OF MODERN CIVILISATION.

IN a recent case in the Chancery Division, in which Mr. Justice Swinfen Eady was invited to restrain the keeper of a fried fish shop from continuing the nuisance alleged by his neighbours to arise out of his trade, his lordship granted an injunction, and cited as the authority for his own guidance in so doing a definition of a nuisance laid down by Sir James Knight Bruce. That learned Vice-Chancellor, whose language has been described by a biographer as always terse and lucid, defined a nuisance with which the Court of Chancery might interfere as "an inconvenience more than fanciful, and more than one of mere delicacy and fastidiousness; an inconvenience materially interfering with the ordinary comfort, physically, of human existence, not merely according to elegant or delicate modes and habits of living, but according to plain and sober and simple notions among English people." Sir James Knight Bruce was promoted to the Bench in the Court of Chancery by Sir Robert Peel in 1841, and died in 1866. The exhalations of a fried fish shop are probably more familiar to those who now live in or traverse the humble streets of the metropolis than they were to him and to his contemporaries, owing to modern conditions of transport and storage, but in most respects a more sanitary and less malodorous London affords a home to a vaster population, and similarly improved conditions are to be found in provincial cities and country towns. If, however, the Vice-Chancellor, revisiting the scene of his judicial labours, might observe an increase in "elegant or delicate modes and habits of living" among us, we venture to suggest that he would be struck at the same time with the increase of a particular form of nuisance, and with the tolerance extended to it. We refer to the nuisance of noise. The "roar" of the traffic of London was no doubt considered remarkable in the middle of the nineteenth century by those who frequented its more crowded streets, paved with granite and used by vehicles all of which had iron tyres, but it is not to any increase of noise in busy localities that we refer. Horseless traffic, by introducing the horn, has in the last few years brought sudden nerve-distracting noise into the quietest thoroughfares at all times of day and night, while there come also heavy vehicles of the traction-engine type, apparently subject to no restriction of any value to the sleepless citizen. The horsed omnibus has, of course, been replaced by the motor omnibus, and we hardly need mention the growing numbers of these vehicles, or their introduction into streets where public conveyances were formerly unknown. Street bands may be fewer, and perhaps the demands of modern traffic for free use of the roadway are responsible for this; but, on the other hand, the hurdy-gurdy against which our fathers inveighed has as its substitute the far noisier piano organ. Of the date of the introduction of the cab whistle we are not aware, but few will deny its more frequent use during recent years and an appreciable increase in the volume of sound produced by it. Such nuisances as arise directly out of noisy trades, out of the proximity of skating rinks, and out of efforts to attract audiences to picture palaces are proceeded against by neighbours, though often at a considerable cost to themselves. The nuisance of noisy traffic concerns citizens in general, and if some "plain and sober" persons may not object to it, we have little doubt that the great majority desire to see it abated. The muffin-bell and the cries of the street-hawker have been largely suppressed, not so much by the making and enforcing of by-laws as by a change in our habits, and it does not seem unreasonable to suggest that an attempt might be made to deal also with the cab whistle and the motor horn. The former is, of course, cheaper in use than electrical communication with the nearest cab rank, and a substitute for it as a means of summoning the "crawler" is not easy to devise. The motor-horn is used to facilitate fast driving and as a substitute for slowing at crossings, which had to be done by the less insistent method of horse traffic. At present a house situated near a busy street corner is inhabited subject to gross nuisance, for by day and night every private car or taxi-cab that passes it in proceeding towards the corner hoots two or three times in doing so. Cars approaching the cross roads from other directions hoot at a slightly greater distance. All this would seem to suggest a combination of the dwellers in such houses, for the protection of the value of their own property and of their own comfort; they should demand the enforcement of careful driving, and the forbidding of hooting in the circumstances described. A very large proportion of the population of London must suffer in health and temper from interrupted rest at night, and by day from the lack of reasonable quiet in their places of business and in their homes. We do not forget, when we compare the traffic in London to-day with that prevailing in the middle of the last century, that in those days there was neither wood pavement nor rubber-tyres, and that the clatter of horses' hoofs has almost ceased. These considerations, however, suggest that if we took full advantage of modern developments our streets might be rendered far more quiet, a consummation which our descendants may arrive at, but which at present we are far from attaining.

THE DEATHS OF THE KINGS OF ENGLAND.

THE deaths of kings have always held a foremost place of interest in the minds of men, so much so that, to speak paradoxically, tradition tells us that more than one king's death is really a resting life. Arthur of Britain sleeps in the isle of Avilon, Charlemagne slumbers until the times of Antichrist be fulfilled, Barbarossa with six of his knights rests in the Kyffhauserberg until Germany shall have need of his aid, as, in like manner, with reference to their own kingdoms, do Ogier the Dane and Olaf Tryggvason of Norway, while even so modern a sovereign as Napoleon Bonaparte is believed to be awaiting his country's call. The life of a monarch has at no date been an easy life; in earlier times he was a mark for the assassin and the enemy, and in all ages a really conscientious ruler is weighed down by the burden of responsibility. In England eight sovereigns since the Conquest have been done to death or slain in battle In Scotland and Ireland we make no attempt to summarise the bloody tale. It is small wonder that Shakespeare made Richard II., as if in premonition of his own miserable death, "tell sad stories of the deaths of kings." But the study of diseases from which kings have died, if carefully conducted, is capable of throwing light upon the medicine of history, and so by direct conversion upon the history of medicine. The latest work on the subject is a monograph by Dr. James Rae [1] entitled "The Deaths of the Kings of England." Dr. Rae in his preface refers to previous writers on the matter, who are very few in number. Sir Henry Halford gave a lecture in 1819 on Deaths of Eminent Persons, Dr. Raymond Crawfurd in 1909 published an interesting monograph on the death of Charles II., and a series of articles appeared in the *British*

[1] The Deaths of the Kings of England. By James Rae, M.A., M.D. London and Manchester: Sherratt and Hughes. 1913. Pp. 152. Price 4s. 6d. net.

Medical Journal, 1910–11, under the heading Some Royal Death Beds. Dr. Rae takes the sovereigns of England from William I. to William IV. and has carefully collated the authorities who have given accounts of the deaths of the various monarchs. On the information thus collected he founds his diagnoses. He himself admits that some of his diagnoses "may be considered fanciful," and herein we agree with him, but all the same his theories are of interest, and in one case only does he seem to us to attribute death to a cause which lacks plausible arguments in its favour—namely, the case of Henry II., whose "fever" he considers to have been a dysenteric affection. One daring diagnosis is of interest in these days of hunger strikes—that Richard II. died from anorexia nervosa. The chronicle says, "semetipsum inedia voluit peremisse," and also that when on the advice of his friends he gave way and tried to eat, "all appetite was gone and the opening of his stomach had closed up so that he died." This account, says Dr. Rae, is quite consistent with a diagnosis of anorexia nervosa. Richard may well have become unbalanced mentally; he was but a child when he came to the throne, and the political state of the kingdom was enough to try the strongest brain and will. Everyone will not agree with all Dr. Rae's diagnoses, but we can thank him for an entertaining book, the value of which is increased by the excellent bibliography.

OVARIAN INFLAMMATION COMPLICATING EPIDEMIC PAROTITIS.

Professor Harlow Brooks of New York calls attention to the fact that ovaritis does seem to occur occasionally as a complication of mumps, albeit in a very small percentage of cases. If the frequency with which the testicles are involved be held to have any bearing on the probability of ovarian inflammation, it seems not unreasonable to attribute the pelvic symptoms noted in this writer's two patients to true ovaritis, though apparently so far no one has actually seen an inflamed ovary in connexion with unquestioned mumps. In a certain number of the cases which have been recorded as instances of ovarian mumps the evidence put forward is not convincing; many of these are disqualified by the youthfulness of the patient, which makes an adequate pelvic examination impracticable. Both of Professor Brooks's patients, however, were grown women. In the first of the two cases which he reports in the *Journal of the American Medical Association* of Feb. 1st the patient was a healthy multipara, aged 28. The parotitis, which was limited to the left side, was followed after a week by pain in the region of the left ovary, which became enlarged and very tender. After two days the pain diminished; this was followed by a menstrual period which occurred ten days before it was due, and was more profuse than usual. After this the ovary, though still painful and enlarged, was much less so. During five years following this attack the patient did not become pregnant; after that time she was lost sight of. In the second instance, that of a married multipara 24 years of age, the pelvic symptoms appeared, together with a rise of temperature, five days after the onset of a mild attack of bilateral parotitis. Both ovaries became enlarged, each to the size of a hen's egg, and extremely tender and painful. Two days later both breasts became acutely inflamed, but the patient was quite well a month later. Since then she has been under periodical observation for six years. Her periods have been regular and normal, and though she has not become pregnant, this is probably due to the fact that her husband is syphilitic. It is worthy of note that the breasts, which formerly presented a normal firmness and bulk, have become atrophic and flabby. In both cases it is reasonable to assume that the micro-organism, or whatever it is that irritates the salivary glands in mumps, provoked a similar reaction in the ovaries, to which it had been carried by the blood-stream. In the whole range of pathology there is no more striking example than mumps of the predilection manifested by certain micro-organisms for attacking certain types of tissue; for it can hardly be doubted that mumps is a bacterial infection. When pathologists have leisure to turn from the investigation of the graver infections to a search for the exciting cause of epidemic parotitis, it is possible that their quest will be rewarded by the discovery of facts which are of importance for the whole pathology of infective disease.

FEBRUARY AT HOME AND ABROAD.

FEBRUARY was appreciably colder than January, both in this country and on the continent, and it was also much drier and generally much more sunny. In England the average afternoon was from 3° to 5° colder, and the nights about 4° colder. The month, however, was not cold for the time of year, the temperature as a whole scarcely diverging at all from the average for the past 30 years. The rainfall, on the other hand, differed considerably from the normal. February has about the smallest average of the year, but last month was much drier than usual, a large area getting only about half the normal quantity of rain, and many localities only about a third. But although so dry the weather was not correspondingly bright. In many places the total number of hours of sunshine was far below the average, and in few above it, and the number of sunless days was high. In the London area, as represented by Kew observatory, the mean maximum temperature was 46° and the mean minimum 35°, figures almost identical with the February average. At Nottingham the mean maximum was also 46°, but the minimum was 33½°, while at Bath the mean maximum was as high as 48° and the mean minimum 34°. The extreme south-west coast of England did not escape the lower temperature, but it was still warmer than the other parts of the country. At Newquay the mean maximum was a degree lower than that at Bath, but the mean temperature of the nights was 4° higher, and at Scilly, where the mean maximum was 49°, the mean minimum was no lower than 41°. The Channel Islands differed little from Scilly; at Jersey the mean afternoon maximum was 49° and the mean minimum 40°. There was, in spite of the rather low average level of the thermometer, very little severe frost in any part of the kingdom. In London the thermometer sank below 32° on only eight nights, the lowest point reached at Kew being 27°, while at Nottingham and Bath the corresponding figures were 12 and 13 respectively. At Bath the greatest cold was 28°, and at Nottingham 23°. In London the temperature reached or exceeded 50° on nine days, but in January the same figure was reached or exceeded on 19 days. At the Scilly Isles and Jersey there was no actual frost, but at both places the thermometer just touched 32° on the night of the 18th–19th. Sunless days were nearly as frequent as during January. At Kew there were as many as 12 on which the sun was not visible at all or shone so feebly that no record was burnt on the recording card, and the total number of hours for the month was no greater than 37, a figure 23 hours below the February average, and just equal to the average for January. The metropolis, however, experienced occasional fog and mist, which were much less prevalent over the country generally, and some of the cities of the Midlands recorded several hours' more sunshine. At Nottingham there were 41 hours, against an average of 50, and at Bath there were as many as 71 hours, against an average of 63. In the far south-west the figure was near the normal. At Newquay

there was the very good total of 94 hours, at Scilly 80 hours, and at Jersey as many as 109 hours. This last value is 17 hours in excess of the normal. Rain and snow were seldom experienced. Both at Kew and Newquay there were no more than 10 days with rain, and at the humid Scilly Isles only 12, while at Jersey the figure was as low as 7. The continent was drier still. At Paris and Nice there was rain on only 4 days, and snow or rain fell at Berlin on only 5 days, and Biarritz, sometimes so rainy in February, had rain on no more than 9 days. At Paris the month was remarkable for the sunshine. Although there were 6 days entirely sunless, the total for the month was as high as 150 hours, giving the very high daily mean of 5 hours and about 20 minutes. In London the mean was about four hours less. Owing to the sunshine Paris was milder during the daytime than London, its mean maximum temperature being 48°. At night, however, it was colder, having a mean minimum of 32° and frost on 16 occasions. Berlin was not cold for February, but its temperature was much lower than at Paris or in any part of England. Frost occurred on every night after the 13th, and about the middle of the month continued throughout the day also. The mean maximum temperature was 42° and the mean minimum 29°. The Riviera had a brief touch of cold from the 18th until the 20th, when snow showers fell locally and the thermometer at night fell to the freezing point, but as a whole the month was mild and very fine. At Nice the mean maximum was 4° above that at Scilly and Jersey, but the mean minimum was a little lower, the figure being 38°, just the same as at Newquay. Biarritz was not so consistently bright as the Riviera, but was mostly very fine, and its temperature was rather higher than at Nice both during the day and night. Frost occurred on three nights, and the mean minimum temperature was a degree lower than at the Scilly Isles. Madeira, although beyond the direct influence of the weather systems of Europe, was also colder than during January. Its mean maximum temperature was 64·4°, against 65·5° in January. The mean minimum, however, was practically the same during the two months—in round figures 48°. There were only seven days with rain, and on most occasions the fall was slight.

THE ENDOWMENT OF RESEARCH.

IN the interesting inaugural lecture delivered by Professor J. M. Beattie on his assumption of the duties of the chair of bacteriology in the University of Liverpool he spoke of the triumphs already won by that science and of its aim—the prevention of disease—and of the methods by which that aim should be attained. He is struck by the danger which arises from specialisation; from the separation of the bacteriologist from the pathologist and of both from the practical physician or sanitarian. This danger, he thinks, can be met, and is being met, by such coöperation of investigators as has been realised for many years in the laboratories of the continent and for some time in America, where, according to Professor Beattie, it attains its highest ideal in the Rockefeller Institute. If "coöperant, and not specially individual, work is the keynote of success," and if, as experience has shown, it is by the close coöperation of fellow-workers in an institute that this success can be realised, how does England stand in this respect and where are our institutes? Professor Beattie is able to point to one, and one only, in the British Isles—the privately endowed Lister Institute. On the basis of the past record of bacteriology, a record which shows results capable of being expressed in terms of financial profit, he claims increased help in the future. Is there prospect of such help? Under the Insurance Act a fund for the endowment of research in tuberculosis is provided, and the suggested schemes for its use include the provision of a central institute such as Professor Beattie desires, or the assistance and completion of the fairly numerous existing centres which with further financial aid could easily attain to his ideal of scientific coöperation. Unfortunately, the attempted treatment and prevention of tuberculosis will more than exhaust the funds available under the Act, and Insurance Committees are already appealing to the Treasury for further aid, so that this source of help may not be realised for some time. There is, however, a change of attitude and a greater sympathy shown by the Government towards educational grants, but there is grave reason to fear that these grants are given from a desire to secure control rather than from any desire to assist education, and it behoves educational authorities to try to educate the Government in the proper principles of administration of such grants. That the man who pays the piper should call the tune is admitted, but if the paymaster is devoid of an ear for music and attempts to teach the orchestra how to play the tune he has called, the result is cacophony. There is no doubt as to the object—practically the avowed object—of the grants made to certain London medical schools, and it is against interference by the Treasury with their educational aims that the Scotch universities have had lately to make vigorous protest. It is for strong bodies like the universities to see that Government grants are not given under such conditions as to render them dangerous rather than helpful.

THE "PARISH DOCTOR" IN SPAIN.

ACCORDING to *La Crónica Médica* of Valencia the students and alumni of that university have been meeting in protest against the unsatisfactory way in which parish doctors are paid—or not paid—by the communal authorities, a case being mentioned in which one unfortunate medical officer had not received his nominal salary of £40 for 22 years. The Madrid students are also joining in the agitation, as was pointed out last month in these columns by a Spanish correspondent. The object is principally to get the local medical and educational services put directly under the central government, so that the medical officers and schoolmasters should not be entirely under the thumb of the local authorities.

DEMINERALISATION IN HYDRO-THERAPEUTICS.

AN interesting note in which the therapeutic claims of Evian-Cachat water are briefly and clinically explained by Dr. Paul Bergouignan has reached us, the principle upon which the treatment is founded being that of demineralisation. With this end in view the most valuable ally is, of course, a coöperative *régime* in regard to diet, for it is obviously useless to try to demineralise tissues which are in constant process of being over-mineralised. Demineralisation, primarily a dissolving and flushing process, as evidenced in a course of Evian-Cachat waters, relieves the body of waste matters out of the blood, the liver, and other organs, and excretes them through the kidneys. The water is admittedly not radioactive, while chemically it contains practically no salts of clinical importance. According to our own analysis made in 1902 the total solids only amounted to 3 grains per pint, consisting chiefly of alkaline carbonates and a very small quantity of sodium chloride. Clinical observations have shown that the urine after the water has been administered fasting contains twice as much uric acid and five or six times the quantity of chlorides as the urine voided during the preceding night. The bottled water retains much of its diuretic power, and experiments at some of the hospitals in Paris show it to be more active than distilled water

and three times as diuretic as that supplied through the city mains. The diuretic activity is best secured when the patient is directed to maintain the recumbent posture for two hours after the last dose. Any disease of the kidneys which seriously impairs their excretory capacity may be regarded as a definite contraindication to the Evian treatment. In the case of neurasthenics who owe their "rather vague but very trying subjective symptoms to auto-intoxication" the demineralising power of the waters is described to be seen at its best, but, of course, the general happy condition of the place, the climate, the scenery, the air, and even the colour, lend very powerful aid to the cure. If it is admissible to speak of the pharmacology of this water, it is probable that we are dealing with physical agencies, amongst which must be counted osmosis.

DR. WILLIAM BEAUMONT.

A LITTLE more than one hundred years ago—namely, on June 9th, 1812—a licence was granted to William Beaumont, by the Third Medical Society of the State of Vermont, to practise physic and surgery, and ten years later occurred that tide in his affairs which, taken at the flood, led him to fame, if not to fortune, for it was then that he came into contact with Alexis St. Martin, and began to conduct the physiological research which practically laid the foundations of our knowledge of the physiology of digestion. Although several cases of gastric fistula had been reported before Beaumont's day, yet in none of these, except one, do we find that any experiments upon digestion were made. The earliest deliberate experiment upon digestion which we can call to mind was made by the Emperor Frederic II., *circa* 1240, who, as recorded in Salimbene's Chronicle, fed two men at dinner. One of these was then sent to sleep and the other to hunt. In the evening the two men were disembowelled, as the Emperor wished to know which of the two had digested the better, and the physicians gave a verdict in favour of him who had slept. Another and even worse instance is on record of some sixteenth century Calvinists in the Low Countries. Having seized an aged Catholic priest they roasted his legs before a fire and, cutting off the cooked portions, made him eat them. Then, wishing to see how digestion progressed, they cut open his stomach, so that he died. Such experiments, however, can scarcely be called scientific, and it is Beaumont's glory that with very imperfect apparatus, and under most adverse circumstances, he was able to make such sound observations as he did, and to keep such admirable records thereof. An interesting study of Beaumont's life has been recently published by Dr. Jesse S. Myer, of St. Louis.[1] From this we learn that William Beaumont was born on Nov. 21st, 1785, being the third son of Samuel Beaumont, a farmer, of Lebanon, Connecticut. He attended the village school and worked on his father's farm until he was 21, when he left home to seek his fortune. In the spring of 1807 he arrived at Champlain in the State of New York, close to the Canadian frontier, and after finding employment as a schoolmaster determined to study medicine. With this object in 1810 he went to St. Albans, Vermont, where he bound himself apprentice to Dr. Benjamin Chandler, who seems to have been a most admirable teacher. Beaumont's case-books kept by him during this period show that he soon began to be an excellent observer. In June, 1812, he received his licence to practise, and on the declaration of war with Great Britain he applied for and obtained a post as surgeon's mate in the army, his commission being dated Dec. 2nd. In March, 1813, his regiment was sent to Sackett's Harbour on Lake Ontario, and on his arrival there he wrote to Dr. Chandler giving sundry military details varied with medical matters, such as: "The old Brunonian practice, a little varied and changed into the Chandlerian, succeeds almost to a miracle." He adds with a laconic brevity which would have endeared him to the heart of "brave Broke" of Shannon fame: "Yesterday we shot a soldier of the marine corps for desertion; we could not obtain the privilege of dissecting him. Next Thursday another is to be shot." Beaumont was present at the battle of Little York, April 27th, 1813, at which he noted with disapproval the "inhuman project" of the British in blowing up their magazine, and at the battle of Plattsburgh, August, 1814. In June, 1815, peace having been concluded, he resigned from the service and started in private practice in Plattsburgh, combining professional work with the keeping of a store for "drugs, medicines, groceries, dye woods, &cr.," the &cr. including such articles as "segars, gin, snuff, plug and paper tobacco." In March, 1820, he re-entered the army, and was sent to Fort Mackinac on Lake Huron. In 1821 he married Mrs. Deborah Platt, and in 1822 came to the turning point of his professional life. On June 6th of that year a number of Canadian voyageurs were in the store of the American Fur Company at Mackinac, and by the accidental discharge of a shot gun Alexis St. Martin was wounded in the abdomen. The gun was so close that St. Martin's clothes were set on fire, and the charge, duck shot, was practically solid. The wound was on the left side, and opened both the thoracic and the abdominal cavities. Sundry ribs were fractured, one of which tore away a portion of the wall of the stomach, and a large part of the left lung came out of the wound. In addition, the tissues were full of shot, bits of cloth, and fragments of bones and cartilage. Beaumont's description of the wound and his treatment is very full and extraordinarily interesting. A good deal of the lung sloughed, but the patient's recovery though slow was uninterrupted. It was then that Beaumont began that masterly series of experiments which were continued at intervals for some 11 years. The results of these investigations were published by F. P. Allen, Plattsburgh, in 1833, the title of the book being "Experiments and Observations on the Gastric Juice and Physiology of Digestion." From his Government Beaumont received the consideration which Governments commonly show towards scientific investigators, that is to say, indifference. In 1840 he retired from the army and took a country place near St. Louis. He died on April 25th, 1853. The medical profession owes a debt of gratitude to Dr. Myer for his careful and sympathetic study of one of the pioneers in medical physiology.

[1] The Life and Letters of Dr. William Beaumont. By Jesse S. Myer, A.B., M.D. With an introduction by Sir William Osler, Bart., M.D., F.R.S. London: Henry Kimpton. 1912. Pp. 317. Price 18s. net.

INCLUSION BODIES IN SCARLET FEVER.

ANY method which renders an early and definite diagnosis of scarlet fever possible would be welcome as a means by which the number of so-called relapses and second attacks might be diminished. The inclusion bodies, first described by Döhle, seemed to offer possibilities in this direction, and have been officially accepted by the City Health Department of Boston as of diagnostic value. An inquiry into their importance and significance has been recently made by Dr. John Granger and Dr. C. Kingsley Pole, and will be found in the *British Journal of Children's Diseases* for January, 1913. These cell inclusion bodies are regarded by Döhle as representing the fragments of a spirochæta which has been partially disintegrated, but as the bodies occur in many other diseases than scarlet fever there can hardly be any suggestion of their etiological importance in the disease. They were found by Dr. Granger and Dr. Pole in a large proportion of cases of diphtheria, measles, and tonsillitis, and, indeed, in most cases caused by ordinary pyogenic

organisms, especially if streptococci were present, though they are absent from the blood in toxic rashes. These observers found the inclusion bodies in practically every case of scarlet fever during the first four days of illness, but their results, as indicated above, show that it is impossible to diagnose scarlet fever by blood film examination alone, though the absence of the inclusion bodies practically excludes that disease.

TREATMENT OF BURNS BY THE APPLICATION OF ALCOHOL.

IN the *Australian Medical Journal* of Jan. 4th Dr. E. T. C. Milligan has described a method of treating burns which he has found more satisfactory than the current methods. In burns of the second, third, and fourth degree cleansing with antiseptic lotions is usually recommended. The moisture causes the sloughs to become septic—in other words, converts dry into moist gangrene. Frequent and painful dressings are then necessary. Dr. Milligan excludes water from the treatment and applies alcohol. He thus prevents moist gangrene and inflammation and saves much suffering. A child, instead of spending several months in hospital, can soon have the burn grafted and run about. The details of the method are as follows. If the patient is in such a state of shock that he cannot stand an anæsthetic, a watery saturated solution of picric acid is applied on lint and protective is put over this to prevent evaporation. On the next day the protective is lifted and more of the solution is poured over the lint, which is not changed. On the third day the patient is either obviously going to die or can stand an anæsthetic. If the picric acid be continued any longer the burn will become offensive. Dr. Milligan has not found the picric acid treatment of burns satisfactory, and simply uses it in the absence of anything better for a patient in condition of shock. Moreover, the acid is absorbed and may cause toxic symptoms. If the patient is in a condition to allow the administration of an anæsthetic he is given chloroform and the burns are cleansed with sterile gauze wrung out of 70 per cent. alcohol. The whole surface of the burn and the surrounding skin is rubbed vigorously. Blisters are rubbed off with all dead tissue. No blister is pricked, nor is the dead skin allowed to remain to keep fluid pent up only to be infected by the organisms of the skin. Dead tissue is more effectively and easily rubbed off than removed with scissors and forceps. After thorough cleansing a dressing of sterile gauze wrung out of the alcohol is applied. Over this dry gauze and wool are applied, and then a bandage. Under chloroform the same process is repeated daily. Every other day will not do, for the burns begin to be septic and offensive. The parts are rubbed, not wiped, with the gauze wrung out of alcohol. On beginning to remove the dressing it will be found stuck to the surface. By pulling upon it bits of dead tissue are satisfactorily removed. The dressings are continued for about eight days, when burns which have not destroyed the whole thickness of the skin will be found in such a clean state that boroglyceride gauze or gutta-percha tissue can be applied as a dressing without any pain. It is striking how rapidly the burns now heal under the boroglyceride. If they become infected again one cleansing with alcohol followed by one alcohol dressing will render them again aseptic. Burns which involve the whole thickness of the skin take longer on account of the sloughs. Under the alcohol treatment these become black, dry, and shrivelled up, and can be torn off or dissected off with a sharp scalpel and forceps. Valuable time will be lost if the surgeon waits for the sloughs to separate. The best results follow the cutting off of the sloughs, for they are not sodden and the surface is aseptic. A scalpel must be used, for it leaves a clean cut with no track of dead and injured cells as a scissors does. Dr. Milligan has employed this treatment during five months for a great number of burns in the Children's Hospital, Melbourne. One case of extensive and deep burns was fatal. Two large duodenal ulcers were found at the necropsy, but at the time of death (twelfth day) the burns were in an aseptic state with all the sloughs removed. In all the other cases healing was most satisfactory. They included burns and scalds of almost all parts of the body, some deep, some on the face, and some on the buttocks, where cleanliness is difficult to maintain in young children. The daily use of chloroform did not prove in any way injurious. There was never any vomiting to interfere with the taking of food, so necessary for a burnt child. Anæsthesia must be employed, otherwise the application of alcohol would be too painful. When the children recover from the anæsthetic they feel no pain and are quite happy.

THE HISTORICAL MEDICAL EXHIBITION.

AMONG other historical medical objects of exceptional interest that have been secured for the Historical Medical Exhibition, organised by Mr. Henry S. Wellcome, and which will be opened in London during the meeting of the International Medical Congress in the coming summer, are many personal relics of Dr. Edward Jenner, the discoverer of vaccination. These include the original lancets and scarifiers he employed during his first experiments, his case and account books, his snuff-box, medicine chest, and many other interesting articles. A collection of Jenner's autograph letters has also been lent to the exhibition, together with the armchair from his study in which he died. Other objects connected with the life of Jenner are also to be exhibited, including many valuable portraits of himself and family, painted at different periods, the illuminated addresses presented to him, together with the freedoms of the cities of London and Dublin, also medals, and other documents of special interest. Concerning the history of anæsthesia, many interesting relics are to be exhibited, beginning with the original autograph journal and manuscripts of Henry Hill Hickman, for whom it is claimed that he was the discoverer of the application of the principle of anæsthesia by inhalation for surgical operations. His experiments on animals were made in 1823. Personal relics of Sir James Simpson, and some of the earliest forms of apparatus for administering chloroform and ether will also be shown. Those who possess any objects connected with the history of medicine and the allied sciences, and who would be willing to lend them, are asked to communicate with the Secretary, 54A, Wigmore-street, London, W., who will be pleased to forward a complete illustrated catalogue to anyone interested.

CULTIVATION OF THE VIRUS OF POLIOMYELITIS.

Dr. Simon Flexner's brilliant researches on poliomyelitis have recently been carried an important step further. He, in association with Noguchi, by using methods devised by the latter for the cultivation of the spirochæta pallida, has now succeeded in procuring what appear to be true cultures of the virus of infantile paralysis; an account of these experiments will be found in the *Journal of the American Medical Association* for February. The organism has appeared to multiply in a mixture of ascitic fluid and filtrate from the infected nervous tissues as was shown by Flexner and Lewis, but the original fluid alone appeared to be capable of producing the disease and not any subcultures. In the new media employed, minute colonies clouding the tube make their appearance after several days culture under anaerobic conditions, and these colonies

seem to be made up of globular bodies, varying in their arrangement, averaging 0·15μ to 0·3μ in size and showing a reddish violet with Giemsa's stain. Similar bodies have been demonstrated by Noguchi in films from infected nervous tissues. The third generation from the human disease and the fifth in the case of monkeys have produced typical poliomyelitis. The observers are, however, cautious, and further experiments are being made with later generations in order to exclude the possibility that the results are due to the carrying over of the original virus from culture to culture. In this disease we have apparently a visible though filterable virus.

FATAL AIR EMBOLISM DUE TO ATTEMPTS TO INDUCE ABORTION.

WE recently referred to an accident which may occur in the attempt to induce abortion by injecting fluids into the uterus—the production of fatal air embolism.[1] So far as we know no case has been recorded in this country, and yet, as we remarked, four cases have been reported in one Australian medical journal[2] in a little over three years. In the *New Zealand Medical Journal* for November, 1912, is published a paper read before the Canterbury Division of the British Medical Association by Dr. J. W. Crawshaw which is further evidence that this is a common method of inducing abortion at the Antipodes. Two cases have been before the courts in the North Island of New Zealand, in one of which a conviction was obtained. Dr. Crawshaw reports the following case from the South Island. On May 17th, 1912, he was called to the house of a woman whom he found dead. She had four living children and had had five or six miscarriages, the last in August, 1911. Her health, except for anæmia, caused by severe hæmorrhages at several of these miscarriages, had generally been good. When Dr. Crawshaw arrived there was a woman in the house who was uncommunicative. All she would say was that while her back was turned she suddenly heard a cry and the sound of a fall and found the deceased on the floor perfectly still. On Dr. Crawshaw's arrival the body had been placed on the bed and was quite warm. There were no signs of violence. The pupils were of medium size. The clothing was unfastened on the chest and was wet. It had been unfastened after the woman fell and the wetting was due to an attempt to make her drink. The rest of the clothing was not disarranged; indeed, the chemise was tucked into the drawers very tightly. There was no hæmorrhage or discharge from the vagina, and the underclothing was dry and showed no stains. A necropsy was made 17 hours after death. The body was well nourished. Examination of the organs *in situ* showed that the uterus was of the size of a four months' pregnancy. The liver and spleen appeared to be slightly enlarged. In the thorax nothing abnormal was noticed. It was decided to make a detailed examination of the abdomen first. The liver was first removed. Numerous large bubbles of gas escaped from the divided portal vein. On detaching the liver from the vena cava inferior a great quantity of gas escaped from that vessel. The liver was slightly enlarged but on section quite normal. The uterus, vagina, tubes, and ovaries were removed *en masse*. On dividing the ovarian and uterine vessels gas escaped from the veins on both sides in a continuous succession of bubbles, and pressure on the uterus forced out a considerable quantity of air from the cut ends. The uterus was of a peculiar mottled appearance, purple areas alternating with others of a lighter greyish colour. The muscle felt soft and flabby, no rigor mortis being apparent. On rolling the uterine wall between the finger and thumb a crackling sensation was felt, resembling that of surgical emphysema. On section of the uterine wall this was found to be due to air in the venous sinuses, which issued from all parts of the cut surface on pressure. The external os was patulous, admitting the index finger easily. The uterus contained an unruptured ovum which was separated along the whole of its posterior and lateral surfaces and for a considerable part of its anterior surface. There remained attached only the upper two-thirds of the placenta with a small area of membrane at the fundus. In spite of this detachment no hæmorrhage had occurred. The cervix and vagina were carefully examined for injuries with negative result. The ovum contained a male fœtus of four months' development. The heart and lungs were removed together from the chest. On dividing the superior vena cava a large quantity of air escaped. The heart was of normal size. The right auricle and ventricle were empty except for a small quantity of frothy blood. The pulmonary arteries contained much frothy blood. The left side of the heart did not contain any air bubbles. The mitral valve was slightly thickened, and there was slight atheroma in the first inch of the aorta, but the coronary arteries were normal throughout their whole extent. The lungs and brain were normal. The conclusion come to was that death was due to the entrance of air under pressure into the uterine cavity separating the ovum and entering the uterine sinuses through the open vessels of the placental site. Hence it travelled by the ovarian and uterine veins to the inferior cava, heart, and pulmonary arteries. Probably the air was injected by inserting the nozzle of an enema syringe into the cervix. The fact that no blood was found in the uterine cavity was attributed to high pressure of the air. We may add that in the previous cases blood or bloody discharge was found at the os uteri and vulva.

[1] THE LANCET, Oct. 19th, 1912, p. 1097
[2] The Australasian Medical Gazette.

THE DUTCH AMBULANCE AT THE BALKAN WAR.

Dr. van Ommeren, of the Dutch ambulance in Constantinople, has sent an interesting letter to the *Tijdschrift voor Geneeskunde*, in which he describes the deplorably filthy condition in which patients were brought in. Many who had been operated on were lying in a bath of pus. When, however, these had been cleansed and their dressings changed regularly, abscesses and sinuses being opened, it was wonderful how rapidly they began to recover. He found the Roentgen ray apparatus often very valuable in showing the seat of mischief.

AMONGST the 15 candidates who have been selected by the Council of the Royal Society to be recommended for election as Fellows, Dr. William Bulloch, bacteriologist to the London Hospital, Dr. T. R. Elliott, assistant physician to University College Hospital, Dr. J. S. Flett, of Edinburgh, and Professor Arthur Keith are members of the medical profession.

Professor F. Gowland Hopkins, F.R.S., has been appointed President of the Section of Physiology at the meeting of the British Association to be held in September next at Birmingham.

Sir Arthur Branfoot, K.C.I.E., has handed over the presidency of the Medical Board of the India Office to Sir Richard Havelock Charles, G.C.V.O.

ROYAL DENTAL HOSPITAL.—The annual general meeting of the governors will be held at the hospital, Leicester-square, London, on Thursday, March 13th, at 5.30 P.M., Dr. Dudley W. Buxton, a vice-president of the hospital, in the chair.

THE MEDICAL PROFESSION IN INDIA.

(FROM A SPECIAL CORRESPONDENT.)

THE medical profession in India is a heterogeneous body, and it is clear to me that our friends at home do not recognise this. It is composed of men of various grades of ability and education, of different class and caste, who, speaking generally, are all actuated by the same high motives and work together in loyalty to the Government and the people. Speaking generally again, the official in India is the least self-seeking of mortals; he is, as a rule, devoted to his duty, and although he will draw without a blush a hugely inflated T.A. (travelling allowance) he will repudiate with scorn the very suspicion of a bribe. This official honesty is not confined to the European; it extends to all subordinate native officials, who are much touched in their honour by any reflection upon their official probity. It is this high feeling which, combined with the semi-military organisation of the Government, where every man has his rank and precedence, makes for that smooth and efficient working together of men of all classes, castes, and religions which distinguishes the Indian services and, not least among them, the medical service. There is, of course, jealousy and discontent, which is increasing as the native is becoming more and more educated, but up to the present this has not been intruded into official relations, nor has it been allowed to mar the efficiency of the services. How long such a state of things can go on it is impossible to say, but we may hope that reforms will be instituted before anything damaging to the services can occur.

The Indian Medical Service.

Classified according to duties performed, salary received, rank and precedence, all the things which in India really matter, the last not least, we may describe the Medical Service as composed of the following units:—

1. The high officials.
2. Officers of the Indian Medical Service in military employ. A separate civil medical department for India is desired by many.

The Appointments of District Surgeons, Chemical Examiners, and Sanitary Commissioners.

3. Officers of the Indian Medical Service in charge of civil districts and jails, those on sanitary duty as Commissioners and Assistant Commissioners, who have taken up analytical chemical work (chemical examiners), &c., comprising a class who receive salary and allowances as a rule adequate to their needs, and are able in some places occasionally to add to their income by undertaking private work.

District surgeons are generally hard-worked; they have a large district, and are responsible in a supervisory capacity for the dispensary medical work that is done by subordinates. They have much administrative work of a trying character to perform, and are expected to make periodical visits of inspection to the medical institutions and dispensaries within their districts. They lead a life very fully occupied by official duties and have little leisure for private practice, the opportunities for which vary in the different districts. Any additional income they are able to make in this way must break into the little leisure they can allow themselves, and in many places they are driven to undertake private cases from the want of other competent medical aid within a reasonable distance of the villages in the district. The district surgeon must be distinguished from the civil surgeon of a town or station who is not infrequently quartered in or near the same town.

Chemical examiners may be said to be side-tracked. They are recruited from specially chosen junior officers who receive an appropriate training, and as vacancies occur succeed to senior positions. They receive an adequate salary, and where there is a medical college, as in Presidency towns, they hold the professorship of chemistry and draw an additional allowance. They are permitted to undertake private analytical work and in this way to add to their income, fees which in some towns amount to more than in others. Their work is congenial and not too exacting, and they have reason to be well satisfied.

Sanitary Commissioners and their deputies have plenty of touring work. Their chief duties are to give advice to municipalities on sanitary matters, advice which very often cannot be, or is not, carried out. A scheme for the improvement and strengthening of the sanitary service in India has recently come into operation, under a Government of India resolution of May, 1912. The improvements are in the direction of decentralisation of control, of widening the field of recruitment by throwing open the higher posts to fully qualified Indians of proved aptitude, and of strengthening the staff in some of the provinces in which it is at present inadequate. Local Government Boards are empowered to select their own Sanitary Commissioners from the officers serving in the *Provincial* (not I.M.S.) sanitary departments under certain conditions, and the larger municipal cities are to have medical officers of health of the first-class—i.e., officers possessing registrable qualifications and a British Diploma in Public Health. The prospects in the sanitary department are seen to be thus improving, and the pay is satisfactory.

The Position of Civil Surgeon.

4. The civil surgeon of a large town or station holds a coveted position. He is in medical charge of the Government officials located in the town, who are entitled to his services during illness, as in some cases are also their wives and children. The nature of the service varies according to the rank of the official. The civil surgeon is usually assisted by a subordinate officer, and Government servants below a certain grade are entitled only to the services of this subordinate under the supervision, as it were, of the civil surgeon. In places where there is no special health officer he is responsible for these duties in addition, but they are usually quite inconsiderable, for where they amount to anything of importance there is usually a special officer. The civil surgeon is brought into contact with the unofficial population, both European and native, among whom he is able to carry on a lucrative private practice. It is in connexion with the civil surgeon and the Presidency town hospital surgeon, that an agitation has arisen against what is called the monopoly by the Indian Medical Service of civil appointments and private medical practice, which culminated in a memorial to the Secretary of State for India by the independent medical profession of Bombay. It would be incorrect to say that there are no grounds for such an agitation, but at the same time it is not my intention to suggest that all the grounds are good or that all the changes suggested in the memorial referred to are desirable in the public interest. So far as I am personally aware these positions have been in a few instances abused. Where an official is entitled to service it may have been given sometimes reluctantly unless a fee was forthcoming, and when a man or his wife or child is ill he is in no mood to accept unwilling or hurried medical aid, and he will pay and say nothing more about it. Again, a man who is entitled to subordinate medical aid in ordinary circumstances will sometimes desire superior service, and again he will pay and be silent. The customary fee for an officer of the Indian Medical Service to demand and receive is 15 rupees (£1) for a consultation or visit, and the medical cost of a lengthy illness is therefore not inconsiderable. It must also be understood that he acts in most cases as a general medical practitioner in attendance on the patient, and not merely in a consultative capacity to his subordinate. In a "good" station the civil surgeon is a much occupied man, but *not* only with official duties.

Professorial and Hospital Appointments.

5. Officers of the Indian Medical Service at Presidency towns, employed as professors at the Medical College and as physicians or surgeons to the general and special hospitals are the real Indian consultants and specialists, though they do not limit themselves to consultative work nor even to their special branches of medicine and surgery. These appointments are the plums of the service. They fall to specially selected officers who, as a rule, very worthily fill them. Their duties as medical officers at the hospital occupy several hours of the day, say, from 7 A.M. until noon, and often they visit their serious cases in the evening as well. Clinical teaching is given in the morning during the hospital rounds. In addition they have lectures to deliver at the Medical College, generally in the afternoon. Their time is thus seen to be fairly fully occupied, but not so much as to preclude private practice, which, indeed, they cannot avoid, both on account

of their position and reputation in the Presidency, and the constant and urgent calls to which they are subject.

The Provincial Medical Service.

6. The assistant surgeons (Provincial Medical Service). This service is recruited by competition among the medical graduates of the Indian universities. They act in various capacities as health officers of second-class municipal districts, as assistants to district surgeons, to civil surgeons, to professors at medical colleges, to physicians at hospitals, to the chemical examiner, &c., all which posts are also open to the warrant officers of the Indian Subordinate Medical Department. A few members of the Provincial Service hold English registrable qualifications, and are dissatisfied with the bar to their promotion to positions reserved for officers of the Indian Medical Service. They seem to have much justice in their claims for better consideration, and there is no doubt that they will obtain it, and that those who know the Indian Medical Service most intimately would rather that this were so than that any spirit of soreness were fostered.

The Indian Subordinate Medical Department.

7. This is a military department of warrant and non-commissioned officers, but not therefore a department whose officers are confined to military duties. As stated above, the warrant officers of this department share with members of the provincial service some of the most coveted posts in that service. It is recruited locally through *Governmental* competitive examinations of applicants for entry to the medical colleges. After four years' teaching these students are again examined *Governmentally* and drafted into the service. It will be seen that it is not necessary for them to have passed an examination of the medical faculty of a university to obtain their positions. Like the Indian Medical Service, of which this is the subordinate department, it has a military and a civil side. On the military side it is distinct and definite, but on the civil side it merges into the provincial medical service, so far at least as duties are concerned. Wherever he may be, an officer of the I.S.M.D. is under military discipline. This is not the case with an officer of the provincial service in theory, but in practice the difference amounts to very little, for the whole organisation of the Indian Government is semi-military, and discipline and subordination are strictly observed. The I.S.M.D. has, roughly, two divisions. The upper division is composed of men who are presumed to have some white admixture of blood. They possess European names, use the English language as their native tongue, are of the Christian religion, of English dress and habit, English outlook and mind. Some of them are the sons of English soldiers and are English in every respect, the great majority are of mixed English and Indian race, while in the case of a few it is doubtful if at any period in their ancestry occurred an infusion of European blood. They constitute a set of highly efficient and loyal men, who, subject to the limitations of their opportunity and education, are a creditable body of medical practitioners. In civil posts they have opportunity for private practice which they carry on with credit to themselves and satisfaction to their patients. They frequently rise to honorary commissioned rank. On retirement they practise in the larger towns and stations and are the usual medical attendants of the European and Eurasian population of these places, often whether or not their patients are entitled to the gratuitous services of the district surgeon or his subordinate. The lower division of this service is composed of natives, educated, examined, and passed in a similar manner. The standard of education is lower. They rank as non-commissioned officers, but rise to warrant rank corresponding to subadar or jemadar. They are attached in subordinate capacities to hospitals and do most of the outlying district work at dispensaries. When a district surgeon is said to have the medical charge of the population of a district, numbering "1¼ millions of people," it means that he has these subordinate officers scattered over the district at dispensaries which he visits at stated intervals.

The Independent Medical Profession.

8. In addition to the seven classes above described, who are all Government officials, there are also medical practitioners in India who are non-official. These are made up of European medical men, the health officers of the large cities, railway doctors, plantation doctors, doctors at mills and other commercial undertakings, and a large body of native practitioners, with and without European qualifications, who may be termed the independent medical profession of India.

Such, then, are the components of the medical profession in India, that is, of the profession which studies and practises Western medicine, severed by caste, race, and religion, but bound together by the tradition and ethics of the profession, and in spirit, if not in letter, by the Hippocratic oath. This bond of union has been, and will be, denied. One is constantly told that there is no practice of medical ethics in India. It may be that their standards do not conform to those of the British practitioner at home in all particulars. But the reality and the spirit are there, and show their presence in the face of different circumstances. The necessity of the patient is the controlling factor to the physician, and all interests are subordinated to it. This, at any rate, is the impression made upon me, who, understanding the language and manner of life of the Mohammedan and Brahmin or other Hindu, have been enabled to enter their homes and share their thoughts. Of the Hakeem and Vaythian, professors of native medicine, it is not necessary to say anything more than that they still drive a lucrative business.

Consideration of the Question of Reform.

From all that has been said it will be seen that in the main the medical service of India is efficient and satisfactory, but there are certain aspects of it where reform is both desirable and necessary. In considering what is to be the character and extent of reform, the question must be looked at from all points of view. In the first place it must not be forgotten that there is a Governmental aspect—namely, the civil interests of the population at large, and more especially the poorer part of it, and the military exigencies of the English occupation of India. It is stated that it is necessary to have a large reserve of officers who could be made immediately available in time of need, but who are not required for present military purposes, and who are thus economically provided for in civil posts.

If it be granted that this is a paramount consideration, an inquiry might still be necessary as to the numbers in reserve in civil posts, and it may fairly be imagined that the result of such an inquiry would disclose a large excess. In regard to the needs of "the teeming millions of India" it will make no difference whether the district surgeon be a civil or military officer, for they seldom see him unless, being seriously ill, they find their way to the district hospital. Their lesser needs are provided for in the persons of the sub-assistant surgeons at the dispensaries. A civilian surgeon will probably give them as good treatment when they come under his hands as the military man now in office, but he will not give them better. Therefore, from the Government's point of view, the change from a soldier to a civilian in the civil posts seems quite unnecessary.

From the point of view of the white population of India something may be said in favour of a separate civil medical service in India, composed of officers on a graded scale, not subject to sudden and irregular transfer from one station to another. This will apply more especially to the civil surgeon of a station who is the chief private practitioner, and with more force in the case of the non-official population, who are not, like the officials, subject to frequent and sudden transfer.

It is true that the Government are not called upon to provide medical aid for non-official Europeans, who are in most cases well able to pay for it themselves, but there being usually no other medical practitioner in the town of the same skill and standing as the civil surgeon, they are perforce obliged to avail themselves of his assistance. At present private practitioners of the requisite qualifications and standing are not available, but if the powerful competition of the service doctor be withdrawn this could be left to time and circumstance to supply.

We now come to deal with the interests of the officers of the Indian Medical Service and with those of the independent local profession, interests which are opposed to each other. In a moderate and fair-minded article on this subject which appeared in the *South of India Observer*, March 19th, 1910, it was stated that there is ample scope for the employment of indigenous talent in civil appointments not reserved of necessity for the accommodation of officers who are to be held available for army purposes. A large number of native medical men have been educated and thrown upon the country. Their efforts at private practice are frustrated by

the existence of the subsidised private practitioner of the Government, and they are at present ineligible for the civil posts which he holds. Naturally they are dissatisfied. It is true that the policy of Lord Morley has caused a few posts to be thrown open to them which were formerly closed, but this policy will never be carried out in its fulness of intention until the liberty of private practice is withdrawn from the Indian Medical Service officer.

It is stated that if this were done it would at once produce a detrimental effect upon candidature in England for the service. The answer to such an argument seems to me to be obvious. If the bait held out to candidates for the service is the very problematical one of a lucrative private practice after several years of service and a moderate amount of good luck, it is the wrong bait to use. Honourable conditions of service, good pay and prospects, an ample period of privilege leave at reasonable intervals, are the considerations that should be used to attract men to exchange the security and comfort of life at home for the numerous disabilities which every career abroad must possess.

There is another complaint against present arrangements which is not without foundation—the distribution of college professorships. Under existing arrangements, the professorship of a subject goes with the holding of a particular civil appointment, and as transfers or promotions occur, we are met with the spectacle of the professor of materia medica of yesterday in the chair of surgery to-day, or the professor of jurisprudence or physiology of last week presently conducting the clinical teaching at the Government Maternity Hospital or Eye Infirmary. Although the situation thus created is Gilbertian in the extreme, it does not lead to such chaos as one might imagine, and credit is due to the assistant professors, locally qualified men, who are much more faithful to the subjects they profess because they are allowed to sit longer in their chairs. Both in the interests of the students and of the public whom they will afterwards serve, it would be better if the principal and professors of the medical colleges were civilian medical men, holding with their professorships the corresponding hospital appointments and free to undertake private practice in a consultative capacity. At first it would be necessary to draw upon England to supply suitable men for these posts, but there is no reason why in course of time, in consequence of the better teaching they will receive, natives should not become competent to hold them. The Indian Medical Service cannot be expected to resign these posts without a strenuous struggle. In Bombay the "independent" profession has succeeded in gaining recognition at the Grant Medical College, and in Madras the experiment is being tried of utilising the services of natives in honorary capacities as house physicians at the hospitals at Rayapuram and Royapettah.

There remains only a word to say on the military aspect. The regimental hospital system must give way to the station hospital organisation if officers in military employ are to be satisfied. A scheme for such a change which showed only a negligible increase in cost was lately presented to the Indian Government, but it was refused sanction upon that flimsy pretext alone. Opposition of this character cannot be long sustained, and the future of the Indian Medical Service, military branch, seems hopeful. It is tempting to suggest that the Indian Medical Service on its civil side should be swept away and replaced by a Civil Medical Service, but there are grave objections to such a proposal, and so long as military exigencies exist it will never be carried. The most that can be hoped for is a curtailment of the list of civil posts reserved for officers of the Indian Medical Service. The absorption of the military branch of the service by the Royal Army Medical Corps is another proposal which might remove many anomalies, but would doubtless create others no less real and complicated.

If a fair proportion of civil posts were thrown open to the indigenous profession, if in regard to others of a higher status the present bar of entry were removed, and if, except by special permission individually granted, the privilege of private practice were withdrawn from Indian Medical Service officers in exchange for more appropriate compensations, all parties might be more satisfied and none, I consider, would be unjustly treated, but I can hardly suppose that the Indian Medical Service, of whose admirable work and splendid traditions I have knowledge, will approve of the suggestions.

ROYAL MEDICAL BENEVOLENT FUND.

His Majesty the King was graciously pleased last year to confer on the fund the title of "Royal." To celebrate this event it has been arranged to hold a dinner of those interested in the Fund and its Guild—both ladies and gentlemen.

H.R.H. Prince Arthur of Connaught has kindly consented to preside over the dinner, which will take place on Wednesday, April 30th, at the Hotel Cecil. The following is the first list of stewards:—

Adeline, Duchess of Bedford.
Aldrich-Blake, Miss L. B.
Allbutt, Sir Clifford.
Bailey, Mr. Cozens.
Ballance, Mr. C. A.
Barling, Mr. Gilbert.
Barlow, Sir Thomas.
Beale, Dr. Clifford.
Berry, Mr. James.
Bowen, Dr. W. H.
Bradford, Sir J. Rose.
Bramwell, Dr. B.
Broadbent, Sir John and Lady.
Browne, Dr. H. Langley.
Bruce, Dr. Ironside.
Bruce, Dr. J. Mitchell.
Bruce-Porter, Dr. H. E. B. and Mrs.
Brunton, Sir Lauder.
Buchanan, Dr. W.
Burnet, Sir Robert W.
Bury, Dr. Judson.
Buttar, Dr. C.
Buzzard, Dr. E. F.
Byam, Dr. S. H.
Carr, Dr. J. Walter.
Chapple, Mr. and Mrs. Harold.
Cheyne, Sir Watson and Lady.
Churchill, Dr. F.
Clarke, Mr. Fielding.
Collier, Dr. William.
Corner, Mr. E. M.
Critchett, Sir Anderson and Lady
Dalton, Dr. Norman.
Daniel, Mr. Peter.
Davies-Colley, Dr. R.
Davis, Dr. H. J.
Dodd, Dr. W. H.
Doughty, Mrs. E.
Duckworth, Sir Dyce and Lady.
Durham, Mr. F.
Edwards, Mr. F. Swinford.
Fagge, Mr. C. H.
Fairbank, Mr. J. S. A.
Fenwick, Mr. E. Hurry.
Ferrier, Sir David.
Fowler, Sir J. Kingston.
Fripp, Sir Alfred and Lady.
Fuller, Mrs.
Galloway, Dr. James.
Gask, Mr. G. E.
Godlee, Sir Rickman.
Godson, Dr. Clement.
Goodhart, Sir James.
Gordon, Dr. John.
Gould, Sir Alfred Pearce.
Griffith, Dr. Walter.
Hall, Dr. F. de Havilland.
Hardey, Mr. E. P.
Harris, Dr. and Mrs. Wilfred.
Hills, Dr. A. Phillips.
Hutchinson, Mr. Jonathan.
Hutchison, Dr. R. and Mrs.
Katherine, Duchess of Westminster.
Kidd, Dr. Frank.
Lady Northcote.
Lady Shaftesbury.
Lady Willoughby de Broke.
Lane, Mr. and Mrs. Arbuthnot.
Lang, Mr. W.
Lankester, Mr. Owen.
Lawrence, Sir Trevor.
Lister, Mrs. W. T.
Liveing, Dr. Edward and Mrs.
Lockwood, Mr. C. B.
Luff, Mrs.
Lynch, Dr. J. Roche.
MacAlister, Sir Donald.
McGavin, Mr. L. H.
Makins, Mr. G. H.
Manser, Dr. F.
Marsh, Professor Howard.
Morgan, Mr. J. H.
Morgan, Dr. H. M.
Morison, Mr. A. E.
Morris, Sir Malcolm.
Moses, Mr. A. H.
Murray, Mr. George.
Needham, Dr. F.
Nevins, Dr. J. E.
Ormerod, Dr. J. A.
Osborn, Dr. F. A.
Osler, Sir William.
Page, Mr. Herbert.
Phillips, Dr. Sidney.
Powell, Sir R. Douglas.
Poynton, Dr. F. J.
Reid, Sir James.
Rice, Dr. George.
Rolleston, Dr. and Mrs. H. D
Romer, Mr. Frank.
Rose, Dr. Cooper.
Ross, Sir Ronald.
Rutherford, Miss E. F.
Sargent, Mr. W. E.
Savage, Sir George.
Scharlieb, Mrs. I. M.
Scharlieb, Mrs. Mary.
Shadwell, Dr. A.
Shears, Dr. C. H. B.
Sheehy, Mr. W. H. P.
Sherren, Mr. J.
Simon, Sir R. M.
Simpson, Dr. A. R.
Smith, Dr. C.
Smith, Dr. F.
Soloman, Dr. C. E.
Stansfeld, Dr. A. E.
Steele, Dr. W. H.
Steeves, Mrs.
Stiles, Mr. H. J.
Still, Dr. G. F.
Strugnell, Dr. F. W.
Swainson, Mr. J. M. G.
Swallow, Dr.
Swift, Mr. Rigby.
Symonds, Mr. and Mrs. Charters.
The Dowager Lady Broadbent.
The Hon. Mrs. A. William West.
Thomson, Sir StClair.
Thorburn, Dr. W.
Tirard, Dr. Nestor.
Todd, Dr. D. F.
Turner, Dr. W. A.
Turner, Mr. Thomas.
Turner, Sir William.
Tweedy, Sir John and Lady.
Tweedy, Miss.
Uhthoff, Dr. J. C.
Verrall, Dr. James.
Voelcker, Dr. A. F.
Warburton, Mrs.
Waterhouse, Mrs.
West, Dr. and Mrs. Samuel.
White, Dr. and Mrs. Hale.
Will, Dr. J. Kennedy.
Willcox, Dr. W. H.
Williams, Sir John.
Wood, Dr. G. B.
Yeo, Dr. I. Burney.
Young, Mr. Parker.

Communications relating to the dinner may be addressed to Mr. G. Bethell, 11, Chandos-street, Cavendish-square, W., and subscriptions sent to the treasurer, Dr. Samuel West, 15, Wimpole-street, W.

At the February meeting of the committee 23 cases were considered and grants amounting to £222 voted to 20 of the applicants. Appended is an abstract of the cases relieved:—

Widow, aged 63, of M.R.C.S. No income, and supplements slight assistance from children by taking boarders. Relieved twice, £22. Voted £12.—Widow, aged 43, of M.R.C.S. Three children, aged 13 to 7, and practically dependent upon her earnings by letting lodgings. Relieved three times, £34. Voted £10.—M.D. Edin., aged 52. Met with a severe bicycle accident a year ago, and has since been incapacitated and dependent on a widowed sister who can ill afford to help. Voted

£12.—Widow, aged 56, of L.R.C.P., L.R.C.S. Irel. Unprovided for at husband's recent death, and hopes to support herself by receiving boarders. Children only able to give very slight help. Voted £10.—Daughter, aged 51, of L.R.C.P. Irel. Has always been in feeble health, and is now incapacitated by a chronic complaint for which she has been promised admission to a hospital. Voted £5 now and £5 on leaving the hospital.—Daughter, aged 67, of late M.D. Edin. Used to have a small income, but was obliged to mortgage the property from which it was derived, and now receiving nothing owing to foreclosure by the mortgagee. Voted £12.—Daughter, aged 65, of late M.R.C.S. Was comfortably provided for by her father, but lost everything through the dishonesty of her trustee, and is now dependent on a small pension from another society. Relieved twice, £36. Voted £12.—Daughter, aged 62, of late M.R.C.S. Has had a school for several years, but now owing to competition finds it very difficult to meet her expenses and is obliged to maintain two mentally afflicted sisters. Relieved once, £10. Voted £12.—Deserted wife, aged 46. Since husband's disappearance a few years ago has supported herself in different ways, but is now in difficulties which she quite hopes will be temporary. Relieved once, £10. Voted £10.—Widow, aged 70, of M.R.C.S. Since husband's death 30 years ago has kept a lodging house, but now owing to failing sight and chronic rheumatism finds it very difficult to do the necessary work. Only income a few shillings a week from savings which have been invested. Relieved once, £12. Voted £5 and to be advised to apply for an Old Age Pension.—Daughters, aged 60 and 55, of late M.R.C.S. Entirely dependent on letting lodgings and both in feeble health. Relieved eight times, £96. Voted £12.—Daughter, aged 66, of late M.R.C.S. Was fairly provided for at father's death but made most unfortunate investments which now yield only about 5s. a week. Relieved twice, £36. Voted £12.—Daughter, aged 44, of late F.R.C.S. No income and health so indifferent that it is impossible to keep any post even when obtained. Relieved 14 times, £117. Voted £12.—Widow, aged 63, of M.R.C.S. Quite unprovided for at husband's death several years ago and owing to a deformity has never been able to obtain regular work. Slight help from children. Relieved nine times, £106. Voted £12.—Daughter, aged 61, of late M.R.C.S. Has suffered for many years from a chronic complaint and been obliged to spend her capital both for treatment and maintenance. Relieved twice, £24. Voted £12.—Daughter, aged 56, of late M.R.C.S. Health too feeble for anything but light work and has to help support two sisters who are unfitted for any occupation. Relieved four times, £72. Voted £18.—Widow, aged 64, of M.D. Lond. After husband's death, about ten years ago, started a boarding-house at a seaside place, but lost all her capital, and is now unable to obtain suitable employment. Relieved twice, £24. Voted £12.—Widow, aged 57, of L.R.C.P. Edin. Slight help from children and lets lodgings. Relieved three times, £32. Voted £2, and case to be reconsidered.—Widow, aged 44, of M.B., C.M. Glasg. Quite unprovided for at husband's death a year ago, after a long illness, and obliged to endeavour to keep a home together because of her three youngest children, aged 10 to 4; slight help from elder children. Relieved once, £12. Voted £20.—Daughter, aged 35, of L.S.A. Has been offered a situation abroad, but requires a little help for unavoidable expenses. Relieved once, £10. Voted £5.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

THE quarterly meeting of this association was held at the Darenth Industrial Colony, Dartford, on Feb. 20th, under the presidency of Dr. J. G. SOUTAR.

Presidential Remarks: the Mental Deficiency Bill.

During the morning members inspected the various centres of activity in the colony, including the female and male workshops and wards for adult imbeciles, for the feeble-minded section, and for imbeciles under 16 years of age, three separate classifications of cases. At the luncheon which followed the PRESIDENT thanked, on behalf of the association, Mr. E. H. Helby, the chairman of the council committee, and Dr. A. Rotherham, medical superintendent, for the cordial welcome which had been extended and the interesting manifestations of good training which were so abundant in the institution. What was to be seen at Darenth was an eye-opener to many, even of those who knew something of such work. He thought that if Dr. Rotherham could only see his way to admit, for the remainder of their short recess, the members of the Cabinet and others in the House, to the institution, that House would rapidly pass, through all its stages, the Mental Deficiency Bill, for they would see that it would confer upon thousands of neglected persons the boons received by the inmates of Darenth Colony. He regarded it as one of the centres of education in the country, and much of that done here might well be copied by the public schools of the country, for here the limitations and potentialities of the pupil were ascertained, and the education directed accordingly. What tears, difficulties, and miseries would thus be saved!—Dr. ROTHERHAM briefly replied to the President's remarks, praising highly the capacity and efforts of the instructional staff, who were all skilled in their work before they took up the posts.—Mr. HELBY admitted that during the last nine years he had found great delight in doing what he could for the special class of case under care and training in this colony, and in the interests of the ratepayers of London. That it had been successful was due to the continuous and harmonious efforts of the medical and instruction staff. A few weeks ago he was a member of a deputation which attended before the Home Secretary. It was received by Mr. Ellis Griffiths, and he told that gentleman that if only a committee of the House of Commons would spend three hours at Darenth Colony it would do more good than three or four weeks' talking by people who, for the most part, had no real practical knowledge of the subject. He concluded by reading the following extract from the last report of the Commissioners in Lunacy, issued a few weeks ago: "We cannot conclude without expressing our pleasure and satisfaction with all we saw and learned during our visit of inspection, and we desire to record our impression that the work of the institution is being carried out on well-planned lines and with much skill and thoughtfulness in organisation, and that the object in view—namely, the adequate training and occupation of the imbecile class—is being attained in a most satisfactory and gratifying manner."

The meeting passed the following resolution on the subject of the detention of criminal lunatics in county and borough asylums:—

That the Parliamentary Committee consider it is most undesirable that criminal lunatics be sent to county and borough asylums, and recommend to the council that the Association be asked to express this opinion to the Home Secretary.

A number of members were appointed to form a deputation on the subject.

The PRESIDENT alluded, in fitting terms, to the decease of Dr E. M. Courtenay (many years inspector of lunatics for Ireland), Mr. Joseph Bayley (48 years superintendent of St. Andrew's Hospital, Northampton), and Mr. S. G. Longworth (Distrct Asylum, Melton, Suffolk), and the meeting authorised messages of condolence to the respective relatives.

Treponema Pallidum in the Brain in General Paralysis.

A very important communication by Dr. GEORGE M. ROBERTSON, of Edinburgh, on a demonstration by Noguchi of the Treponema Pallidum in the Brain in cases of General Paralysis, was communicated to the meeting by Dr. WINIFRED MUIRHEAD. It showed that Noguchi found the spirochæte of syphilis in the brains of 12 out of 70 cases of general paralysis of the insane. The discovery was held to lay at rest much that had long been debateable. A section of the cortex, sent from Dr. Noguchi at Johns Hopkins Hospital, Baltimore, was on view under Dr. Muirhead's care. In all the cases the organisms seemed to have wandered into the nerve tissues; they were not found in the vessel sheaths.

Assistant Medical Officers in Asylums.

Dr. J. BEVERIDGE SPENCE read a paper entitled "Assistant Medical Officers in Asylums." He said that he had been for some time of the opinion that something should be done to improve the position of these officers; therefore he had been in full accord with the work of a committee of the Association on the matter, which had issued an interim report advocating a more advanced education for applicants for these posts. On the question of the facilities to continue study of psychological science at some centre—leave being granted for that purpose—the money factor had to be considered. It would perhaps be really necessary to increase the rate of remuneration in order to attract to the specialty the right kind of man, especially now that in other branches of the profession young men were advertised for at salaries of £400 and £500, with greater individual liberties than those known to assistant medical officers of asylums. In order to collect information on the subject he had sent out forms to the superintendents of 94 asylums, and he gratefully acknowledged the courteous response of 92 of those gentlemen. Of these, 17 asylums had only one assistant medical officer. The average minimum salary of the senior assistant medical officer was £224, and the average maximum £309, exclusive of emoluments; the

lowest being £150, rising to £200, and the highest £330, with a maximum of £430. The medical officers junior to the first seemed to vary from an average minimum of £160 to an average maximum of £208; the highest being £185, rising to £330, and the lowest £130, rising to £150. The emoluments he found difficult of useful tabulation. In nearly every instance the medical superintendents approved of their senior assistant being a married man. Only eight regarded the idea unfavourably, while a few thought permission might be granted if accommodation were provided. There seemed, however, to be a feeling against this permission being granted to the second assistant. In 23 asylums there were now married assistant medical officers, while in 63 institutions these officers were not married. Dr. Spence then proceeded to consider the question of accommodation for married assistant medical officers, under three heads: (1) those who had rooms in the asylum main building; (2) those occupying a house on the asylum estate; (3) those who rented a house outside the asylum grounds; and made a comparison of the conditions and salaries of assistant medical officers of asylums with those of somewhat similar officers in prisons, to the advantage of the latter; and he counselled the continued efforts of the association to better the lot of the former, for it certainly was in sympathy with the aspirations of those gentlemen. He personally was in favour of an advance in the average salaries of assistant medical officers of asylums.

Darenth and its System of Industrial Training.

Mr. F. O. SPENSLEY, senior assistant medical officer, contributed a paper on this subject. He said that 40 years ago, at Hampstead Asylum, under the Metropolitan Asylums Board, an attempt was made to give the patients under 16 years of age some instruction in music, singing, and simple work in schools. So successful was this that the Board suggested the building of a schoolroom and shoemakers' and tailors' shops. In 1874 the Board purchased a site for the separate treatment of imbecile children, meantime using the London Orphan Asylum at Clapton for the purpose, and Dr. Fletcher Beach was its first medical superintendent. In 1876 Darenth Training School was built. In the first year the patients' labour realised £66 5*s.* 7*d.* In order that the training might not be thrown away it was decided to build adjacent to the schools two blocks for 120 males and 120 females, adults, the Local Government Board insisting, however, on the elimination of the hopelessly "incurable," a term which the subcommittee altered to "unimprovable." Subsequently these two wards grew into the adult asylum, with 1052 beds. The author traced the growth of the institution to its present dimensions and many-sided activity, including mat-making, brush-making, wire drawing, pan work, envelope and paper bag making, tin-smith work, carpentry, book-binding, and printing. Drilling of the patients, of both sexes, was in full swing, to the obvious improvement of their physique and deportment. 835 out of the total of 1064 adult imbeciles were now undergoing industrial training. At present a wide and clearly marked line was drawn between the inhabitants of the pavilions and those of the remainder of the institution. They were admitted classified as feeble-minded, and were to be kept quite apart from the certified patients. It would, the author submitted, be difficult to find a better illustration of the impossibility of determining an arbitrary line of demarcation between an imbecile and a feeble-minded person. Among the so-called feeble-minded in the institution were many patients whose mental state was far below that of many of the certified imbeciles. He sketched a different classification, and described the methods pursued to encourage each patient to do his best, and therefore improve as far as possible. Mr. Bickmore was an admirable example of what a crafts-master of such an institution should be, and each tutorial member of the staff was an efficient instructor. Last year the industries realised £12,367, an increase of £8000 per annum in five years.—Dr. G. E. SHUTTLEWORTH, in discussing the paper, alluded to the transfer from Darenth to Rochester House, Ealing, of "improvable" cases in 1900 to 1904 for the purposes of industrial training. He agreed that there was very little difference between the high-grade imbecile and the ordinary feeble-minded person.—The discussion was continued by Dr. POWELL, Dr. R. L. LANGDON-DOWN, Dr. CORNER, and Dr. FLETCHER BEACH, and Mr. SPENSLEY replied.

Public Health.

REPORTS OF SCHOOL MEDICAL OFFICERS.

Kent County Council.—Dr. W. J. Howarth's report of the year 1911 is among those which have a permanent value, apart from statistics, in the building up of the system of medical inspection and medical treatment. The year's record shows not only good work done but solid foundations laid for better. District nurses have been engaged to do, chiefly, "following-up" work. A whole-time nurse has been appointed to stimulate the adoption of a higher standard of cleanliness, and reinspection has been made definite and certain by the institution of a medical log-book of defective children with a continuous record of observations by inspectors and teachers. The attendance officers also assist by arranging for excluded children to attend medical inspections, and a nurse attendance officer has proved of considerable value. The actual work of inspection is carried out by a staff of whole-time and part-time officers arranged so as to allow of its transfer to whole-time medical officers of health as occasion presents. The part-time inspectors are paid a fee of 1*s.* per inspection, *plus* £1 for every 1000 acres in the area and £1 per annum for each school. Total payment per child must not exceed 3*s.* per child inspected or 4*s.* in the Isle of Sheppey. The inspectors arrange their own time for visiting the schools, but give a clear week's notice to the school medical officer of appointment suggested. The cost per inspection works out at 1*s.* 10*d.* for the salaried men and 1*s.* 5*d.* for the part-time men in urban districts, and 2*s.* 9*d.* per child in rural districts. The higher rate in rural districts is due to the fewer children who are examined. Interesting tables are given showing the divergencies between the opinions of inspectors with regard to the existence of defects needing attention. Records of inspections by 20 officers are given, and with regard to teeth the percentage (urban districts) stated to be requiring treatment varies from 27·1 in one case to 0·64 in another, and in regard to visual defects (rural districts) from 15·3 per cent. in one case to 2·9 per cent. in another. To ensure greater uniformity the school medical officer proposes to arrange a conference of inspectors for the discussion of these variations. While no attempt has been made by the Education Committee to provide for treatment by means of clinics or by arrangements with medical practitioners or hospitals, a fair proportion of children have been helped to treatment by following-up methods and the work of care committees. An outbreak of scabies, however, was successfully tackled by the nurse acting under the supervision of the part-time school doctor. Of the cases treated it is interesting to note that more than one-third were dealt with by local practitioners. The steps taken to further medical treatment have included the issue of a circular by the Education Committee inviting the coöperation of school managers, and a meeting of the school managers of the Sheerness schools and the school medical officer to discuss this circular, and a letter from Lord Harris offering substantial help. The possibility of treatment has also been forwarded by the defining of means available to give effect to proposals for treatment by the Education Committee.

Manchester City Council.—The report of the school medical officer (Dr. A. Brown Ritchie) for 1911 is included as a section in the general report of the Education Committee, and constitutes about one-third of a very imposing document crammed with information and suggestive material for future work. It seems a pity that the great mass of these reports cannot in some way be boiled down to facts and figures necessary for each locality's work, and the valuable ideas and suggestions for general application (which emerge from the work of every school medical officer) made the common property of all. From this Manchester report many excellent suggestions emerge, but need a large amount of digging out of the framework (laid down by the Board of Education) in which they are embedded. We make the suggestion with diffidence that the report should be in two sections: facts and figures for local work, and facts, figures, and suggestions helpful to other authorities. Manchester pays special attention to infectious diseases; measles, German measles, and whooping-cough have now been made

compulsorily notifiable, and one assistant school medical officer is almost entirely employed in infectious diseases work. The other assistants are engaged every day of the week (except Wednesday, which is spent in office work) from 9.15 to noon and from 2 to 4 on routine inspection; 4 to 4.30 P.M. and any time not filled in by routine is devoted to special cases. It would surely be better for the efficiency of the work to vary this cast-iron schedule. During the year under review ringworm cases have been allowed to attend school if having the hair cut short, wearing washable caps, and undergoing medical treatment and submitting to periodical inspection by the school medical officer. The duration of the disease has been shortened, and no case of infection to another child in school was discovered. Over 600 children with ringworm attended school and made 4051 attendances at the observation clinic. Manchester is particularly active in providing for special classes of defective children; not only mentally defective, blind, deaf, and crippled children are dealt with, but also consumptive, epileptic, and stammering cases. In the education section of the report an account is given of the institutions concerned, illustrated from photographs. Six classes for stammerers were held during the year, attended by 58 boys and 5 girls. A "fair number" of successful cases are reported. Ten boys underwent a second course, and there is a waiting list of applicants for treatment. Manchester's activity in special departments is reflected in special reports from school doctors, one on "Backward Children" (Dr. H. Herd) is a very suggestive study. The children are divided into three groups, the first marked by serious physical weakness or disease (including sense defects); the second mentally backward *per se* (some of these latter were physically above the average); the third with physical and mental defects. Among other special reports is one by Dr. E. F. M. Neave on "The Effect of Environment on Physique." This is studied from the height and weight statistics of 500 girls and 500 boys in poor, medium, and good schools, and also from these statistics applied to schools in a central district inside a circle of one mile radius, to schools outside this but within a circle of two miles radius, and to a third district within a circle of four miles. The respective densities of population per acre are 81·23, 51·52, and 13·51. The physical differences in the children are very striking and well displayed on a map of the city and a bold chart of the different groups of children dealt with.

Warwickshire County Council.—Medical inspection in Warwickshire is controlled by Dr. A. Bostock Hill, school medical officer, and largely carried out in the three divisions into which the county is divided by three school doctors who are also assistant medical officers of health. Over 1500 visits were made to the schools. Nine school nurses are also employed, and they are also health visitors and so deal not only with the school child found defective, but with the whole household, "from the point of view of the prevention of disease, as well as its palliation." Further increase in the nursing staff is contemplated. A good deal of treatment has been secured by the coöperation of hospitals. The school medical officer lays great stress on the maintenance of the self-reliance and independence of the parents. It is noted that some schools have no water-supply either for washing or drinking. An interesting point is the occurrence of 118 cases of goitre, 107 of which were discovered at routine inspection. Unfortunately the chief statistics for the county (number of schools, children on register, &c.) are not given in a handy form, and consequently comparison of statistics is difficult. A useful hint which might be widely taken up is that for the institution of "ventilation drill."

Northamptonshire County Council.—During 1911 a considerable step forward in Northamptonshire was made by the holding of a conference of representatives of the managers of public elementary schools and members of the education committee, and the consideration there of medical treatment from various points of view. Children with defective vision are now offered treatment by the assistant school medical officer (Dr. J. H. Mason), under the supervision of Dr. H. L P. Hulbert (school medical officer), and spectacles are supplied, on contract, at from 2*s.* to 2*s.* 6*d.* a pair. Of all cases needing treatment (including visual defects), 71·4 per cent. in urban districts and 65·1 per cent. in rural districts obtained this treatment, but the treatment of cases needing operation for removal of tonsils and adenoids was not satisfactory.

Bedfordshire County Council.—No arrangements for treatment otherwise than persuasion by the school medical officer (Mr. W. J. Butcher) is adopted in Bedfordshire, and cases appeared to be "followed up" only by inquiry from the children by the head teacher. Figures so obtained are, of course, not to be relied upon. But a nurse school attendance officer and health visitor has been appointed to deal with following up and with verminous children. Sanitary conditions in some schools are very primitive and in others no facilities for washing exist. Medical inspection appears to be at an early stage of its development in Bedfordshire.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN the 96 English and Welsh towns with populations exceeding 50,000 persons at the last Census, and whose aggregate population at the middle of this year is estimated at 17,852,764 persons, 8894 births and 6178 deaths were registered during the week ended Saturday, March 1st. The annual rate of mortality in these towns, which had been 17·2, 17·2, and 17·3 per 1000 in the three preceding weeks, further rose to 18·0 per 1000 in the week under notice. During the first nine weeks of the current quarter the mean annual death-rate in these towns averaged 16·8, against 17·4 per 1000 in London during the same period. The death-rates last week in the several towns ranged from 8·6 in Wallasey, 9·6 in Ilford, 10·0 in Ealing, 10·1 in Acton and in Great Yarmouth, and 10·5 in Smethwick, to 27·6 in West Hartlepool, 30·9 in Stockton-on-Tees, 32·0 in Swindon, 32·5 in St. Helens, and 33·2 in West Bromwich.

The 6178 deaths from all causes in the 96 towns were 247 in excess of the number in the previous week, and included 506 which were referred to the principal epidemic diseases, against 458 and 482 in the two preceding weeks. Of these 506 deaths, 263 resulted from measles, 78 from whooping-cough, 76 from infantile diarrhœal diseases, 52 from diphtheria, 29 from scarlet fever, and 8 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1·5 per 1000, against 1·3 and 1·4 in the two preceding weeks. The deaths attributed to measles, which had been 200, 217, and 243 in the three preceding weeks, further rose to 263 last week, and caused the highest annual death-rates of 1·7 in Birmingham, 2·0 in Sheffield, 2·2 in Bath and in Bootle, 2·9 in Eastbourne, 4·6 in Plymouth and in Wigan, 9·1 in West Bromwich, and 10·5 in St. Helens. The deaths referred to whooping-cough, which had been 78, 70, and 78 in the three preceding weeks, were again 78 last week, and included 28 in London, 4 in Liverpool, and 3 each in Bristol, Stoke-on-Trent, Salford, Rotherham, and Newcastle-on-Tyne. The fatal cases of diarrhœa and enteritis (among children under 2 years of age), which had increased from 65 to 81 in the four preceding weeks, declined to 76 last week; 23 deaths were registered in London, 8 in Liverpool, 7 in Birmingham, 4 in West Bromwich, and 3 in Leicester. The deaths attributed to diphtheria, which had been 45, 53, and 51 in the three preceding weeks, were 52 last week, and included 8 in London and 3 each in Stoke-on-Trent, Liverpool, Barrow-in-Furness, and Rhondda. The deaths referred to scarlet fever, which had declined from 29 to 19 in the three preceding weeks, rose to 29 last week; 7 deaths were recorded in Birmingham, 4 in London, and 2 each in Bradford, Sheffield, and Aberdare. The fatal cases of enteric fever, which had been 18, 16, and 10 in the three preceding weeks, further fell to 8 last week, of which number 2 were registered in London.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had steadily declined from 2112 to 1667 in the nine preceding weeks, had further fallen to 1659 on Saturday last; 183 new cases were admitted during the week, against 209, 196, and 180 in the three preceding weeks. These hospitals also contained on Saturday last 919 cases of diphtheria, 881 of measles, 316 of whooping-cough, and 44 of enteric fever, but not one of small-pox. The 1635 deaths from all causes in London were 59 in excess of the number registered in the previous week, and were equal to an annual death-rate of 18·8 per 1000. The deaths referred to diseases of the respiratory organs, which

had been 373, 443, and 387 in the three preceding weeks, rose to 453 last week, and were 158 in excess of the number in the corresponding week of last year.

Of the 6178 deaths from all causes in the 96 towns last week, 196 resulted from various forms of violence and 499 were the subject of coroners' inquests. The causes of 46, or 0·7 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in Manchester, Leeds, Bristol, West Ham, Bradford, Hull, Nottingham, and in 71 other smaller towns. The 46 uncertified causes of death last week included 14 in Birmingham, 10 in Liverpool, and 2 each in London, Stoke-on-Trent, Warrington, Sunderland, South Shields, and Tynemouth.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns, with an aggregate population estimated at 2,260,200 persons at the middle of this year, 1124 births and 895 deaths were registered during the week ended Saturday, March 1st. The annual rate of mortality in these towns, which had been 20·8, 20·4, and 18·7 per 1000 in the three preceding weeks, rose to 20·7 in the week under notice. During the first nine weeks of the current quarter the mean annual death-rate in these towns averaged 19·4, against 16·8 per 1000 in the 96 large English towns. Among the several Scotch towns the death-rates last week ranged from 15·0 in Kilmarnock, 15·6 in Leith, and 16·3 in Perth, to 22·9 in Ayr, 23·9 in Dundee, and 24·1 in Aberdeen.

The 895 deaths from all causes were 87 in excess of the number in the previous week, and included 80 which were referred to the principal epidemic diseases, against 65 and 77 in the two preceding weeks. Of these 80 deaths, 55 resulted from whooping-cough, 7 from measles, 7 from infantile diarrhœal diseases, 5 from diphtheria, 4 from scarlet fever, and 2 from enteric fever, but not one from small-pox. These 80 deaths from the principal epidemic diseases were equal to an annual death-rate of 1·8 per 1000, against 1·5 in the 96 large English towns. The deaths attributed to whooping-cough, which had been 52, 39, and 50 in the three preceding weeks, rose to 55 last week, and included 41 in Glasgow, 5 in Edinburgh, 2 in Leith, 2 in Motherwell, and 2 in Clydebank. The deaths referred to measles, which had been 5, 3, and 7 in the three preceding weeks, were again 7 last week, of which number 4 were registered in Glasgow. The fatal cases of diarrhœa and enteritis (among infants under two years of age), which had been 10, 14, and 9 in the three preceding weeks, further declined to 7 last week; 3 deaths were recorded in Glasgow and 2 in Dundee. The deaths attributed to diphtheria, which had been 12, 8, and 7 in the three preceding weeks, further fell to 5 last week, and comprised 2 in Glasgow, 2 in Aberdeen, and 1 in Dundee. The 4 deaths from scarlet fever, 2 of which occurred in Glasgow, were slightly in excess of the average in recent weeks; the 2 fatal cases of enteric fever were registered in Glasgow.

The deaths referred to diseases of the respiratory system in the 16 Scotch towns, which had declined from 221 to 162 in the four preceding weeks, rose to 180 last week; 44 deaths were attributed to different forms of violence, against numbers declining from 34 to 23 in the three preceding weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland with an aggregate population estimated at 1,199,180 persons at the middle of this year, 693 births and 532 deaths were registered during the week ended Saturday, March 1st. The annual rate of mortality in these towns, which had increased from 20·4 to 24·1 in the four preceding weeks, declined to 23·1 per 1000 in the week under notice. During the first nine weeks of the current quarter the mean annual death-rate in these Irish towns averaged 21·8 per 1000; in the 96 large English towns the corresponding death-rate did not exceed 16·8, while in the 16 Scotch towns it was equal to 19·4 per 1000. The annual death-rate recorded in the several Irish towns last week was equal to 26·9 in Dublin (against 18·8 in London and 21·7 in Glasgow), 23·4 in Belfast, 28·6 in Cork, 10·2 in Londonderry, 16·2 in Limerick, and 13·3 in Waterford, while in the remaining 21 smaller towns the mean rate did not exceed 14·5 per 1000.

The 532 deaths from all causes in the 27 Irish towns were 22 fewer than the number in the previous week, and included 41 which were referred to the principal epidemic diseases, against 35 and 37 in the two preceding weeks. Of these 41 deaths, 16 resulted from measles, 11 from whooping-cough, 9 from infantile diarrhœal diseases, 2 from diphtheria, 2 from enteric fever, and 1 from typhus, but not one from small-pox or from scarlet fever. These 41 deaths from the principal epidemic diseases were equal to an annual death-rate of 1·8 per 1000; in the 96 large English towns the corresponding rate was 1·5, and in the 16 Scotch towns 1·8 per 1000. The deaths attributed to measles, which had been 18, 10, and 11 in the three preceding weeks, rose to 16 last week, and included 8 in Newry and 5 in Belfast. The deaths referred to whooping-cough, which had steadily increased from 1 to 8 in the four preceding weeks, further rose to 11 last week; 6 deaths were registered in Dublin and 2 in Waterford. The 9 fatal cases of infantile diarrhœa and enteritis, 6 of which occurred in Dublin, were equal to the average in the three preceding weeks. Of the 2 deaths referred to diphtheria, 1 was recorded in Dublin and 1 in Belfast; the fatal cases of enteric fever and of typhus occurred in Dublin.

The deaths referred to diseases of the respiratory organs, which had been 104, 115, and 142 in the three preceding weeks, were 143 in the week under notice. Of the 532 deaths from all causes, 164, or 31 per cent., occurred in public institutions, and 6 resulted from different forms of violence. The causes of 15, or 2·8 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 96 large English towns the proportion of uncertified causes of death last week did not exceed 0·7 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been notified:—Staff-Surgeons: H. C. Whiteside to the *Suffolk*, temporary; and W. N. L. Cherry to the *Victory*, additional, for disposal. Surgeon: F. G. Hitch to Portland Hospital.

ROYAL ARMY MEDICAL CORPS SCHOOL OF INSTRUCTION.

Major Charles E. P. Fowler, R.A.M.C., to be an Instructor, vice Lieutenant-Colonel A. R. Aldridge, C.S.I. (dated Feb. 17th, 1913).

ROYAL ARMY MEDICAL CORPS.

Major Thomas C. MacKenzie, D.S.O., from the seconded list, is restored to the establishment (dated March 1st, 1913).

Captain James H. R. Winder to be Major (dated Feb. 27th, 1913).

Lieutenant Wilfred W. Treves is seconded for service under the Foreign Office (dated Jan. 7th, 1913).

Colonel F. J. Jencken, Assistant Director of Medical Services to the Colchester District, has been selected for appointment as Director of the Eastern Command, Royal Army Medical Corps, Staff Tour, to be held in the vicinity of Aylesbury. Colonel H. J. Barratt, Assistant Director of Medical Services to the Allahabad and Fyzabad Brigades of the Eighth (Lucknow) Division, has been selected for appointment as Assistant Director of Medical Services to the Bareilly, Garhwal, and Dera Dun Brigades of the Seventh (Meerut) Division of the Northern Army in India.

Lieutenant-Colonel R. J. W. Mawhinny, on arrival in India for a tour of duty, has been selected for appointment to hold charge of the Military Hospital at Jullundur. Lieutenant-Colonel R. J. Copeland has been transferred from Newcastle-on-Tyne to the Military Hospital at York. Lieutenant-Colonel J. W. Bullen has taken up duty at Meerut Cantonment on transfer from the Military Hospital at Agra. Lieutenant-Colonel J. S. Green, on completion of a tour of service in charge of the Military Hospital at Bangalore Cantonment, has been selected for appointment to hold charge of the Military Hospital at Fermoy. Lieutenant-Colonel H. M. Thompson, commanding the Military Hospital at Lucknow Cantonment, has been granted leave of absence home from India. Lieutenant-Colonel A. R. Aldridge has been appointed to the Eastern Command for duty at the Royal Herbert Hospital, Woolwich.

Major N. Faichnie has been transferred from the Military Hospital at Mhow to Delhi Cantonment and appointed to command the Military Hospital. Major D. J. Collins, lately specialist sanitary officer to the Dublin District, has taken up duty at the Military Hospital, Bangalore. Major J. G. Gill has been appointed to the Military Hospital at Rangoon on transfer from Maymyo Cantonment. Major S. G. Butler has been selected for appointment as Specialist in Operative Surgery at the Military Hospital, Curragh Camp. Major W. Power, on return home from Jamaica, tour expired, has been appointed to the Eastern Command for general duty. Major J. L. Jones has been selected for appointment to hold charge of the Military Hospital at Calicut, Madras Presidency. Major E. McDonnell, in charge of the Military Hospital at St. George's, Bermuda, has returned home, tour expired, and has taken up duty in the Eastern Command. Major T. B. Unwin has been transferred from the Military Hospital at the Guards' Depôt, Caterham, to London. Major F. W. Begbie has been transferred from Kamptee to the Military Hospital at Mhow Cantonment, and appointed Specialist in Operative Surgery to the Fifth (Mhow) Division of the Southern Army in India. Major J. Hennessy has left the Military Hospital at Cosham and embarked for a tour of service in India. Major E. B. Steel has been appointed to the Medical Charge of the Garrison at Exeter and Recruiting Medical Officer, in succession to Lieutenant-Colonel H. P. Elkington, transferred to Shorncliffe. Major J. S. Bostock has been transferred from the Military Hospital at Ranikhet to Agra Cantonment. Major J. H. Robinson has taken up duty in the First (Peshawar) Division at Headquarters on transfer from the Presidency Brigade, Calcutta. Major F. W. Cotton has left Fleetwood and embarked for a tour of service in India. Major A. M. MacLaughlin, lately specialist sanitary officer to the Scottish Command, has been appointed to hold charge of the Military Hospital at Madras Cantonment. Major R. J. Blackham, Honorary Surgeon to H.E. the Viceroy and Governor-General of the East Indies, has been placed under orders for transfer from the First (Peshawar) Division to the Third (Lahore) Division, and will take up the duties of Officer Commanding the Station Hospital, Jutogh, Simla Hills, on completion of special duty on H.E. the Viceroy's personal staff.

Captain W. H. S. Burney has been transferred from Donard to the Military Hospital at Attock Cantonment. Captain A. S. Williams, in charge of the Military and Cantonment General Hospital at Khanspur, has been appointed to the Dublin District. Captain J. W. S. Seccombe has been transferred from Taunton to the Military Hospital at Devonport. Captain F. W. M. Cunningham has taken up duty at the Military Hospital at Sialkot, on transfer from Kuldana, Murree Hills District. Captain R. E. W. Newman has been appointed for duty on the transport s.s. *Dongola*, which left Karachi for Southampton on Feb. 26th with time-expired troops. Captain G. P. A. Bracken, in charge of the Military Hospital at Malapuram, Madras Presidency, has arrived home on six months' leave of absence from India. Captain F. W. W. Dawson has joined for duty at Ambala. Captain A. E. F. Hastings has been transferred from the Military Hospital at Chatham to Sheerness. Captain T. W. O. Sexton has arrived home from the South African Command at the expiration of his tour of service. Captain R. H. Nolan has been appointed to the Scottish Command for duty. Captain G. F. Rudkin, staff surgeon, Fort St. George, Madras, has been granted six months' leave of absence home from India. Captain W. H. O'Riordan has been transferred from Ghangla Sali to the Military Hospital at Rawal Pindi Cantonment. Captain T. J. Mitchell has taken up duty at the Military Hospital, Lahore, on transfer from Dalhousie Cantonment. Captain T. T. H. Robinson has arrived home from India for duty at the expiration of his tour of service. Captain W. H. Forsyth has been appointed to the Southern Command for general duty. Captain A. E. S. Irvine has been transferred to the Home Establishment from the South African Command. Captain J. Fairbairn has embarked for a tour of service in the Sierra Leone Protectorate, West Africa.

INDIAN MEDICAL SERVICE.

The Honourable the Lieutenant-Governor of the United Provinces of Agra and Oudh has appointed Colonel C. C. Manifold, inspector-general of civil hospitals, to be a member of the Legislative Council of the United Provinces.

Lieutenant-Colonel D. T. Lane has taken up duty at Ambala Cantonment as Civil Surgeon, on return from leave of absence home from India. Lieutenant-Colonel R. C. Macwatt, second-class agency surgeon, on return from leave has been appointed to officiate as an Agency Surgeon of the First Class and as Civil Surgeon for Ajmer and Administrative Medical Officer in Rajputana State. Lieutenant-Colonel W. J. Buchanan, inspector-general of prisons in Bengal, has been appointed Companion of the Order of the Indian Empire.

Major V. G. Drake-Brockman has been selected for appointment as Civil Surgeon at Dera Ismail Khan. Major J. M. MacLeod has been appointed by the Foreign Department of the Government of India to officiate as Chief Medical Officer in Baluchistan, in addition to his duties as Civil Surgeon at Quetta during the absence on privilege leave of Lieutenant-Colonel A. L. Duke (Bengal). Major P. P. Atal has taken up duty as Substantive Medical Officer to the 129th Duke of Connaught's Own Baluchis. Major W. D. A. Keys, civil surgeon at Karwar, has been granted furlough and combined leave of absence home from India for one year.

Captain W. Tarr, civil surgeon at Pachmarhi, has been placed under orders for duty in the Nimar District. Captain J. S. O'Neill has been transferred from plague-prevention duty in the United Provinces of Agra and Oudh to ordinary civil employment in the same provinces. Captain A. G. McKendrick has been selected for appointment as Secretary to the Director-General of the Indian Medical Service in the Sanitary Branch, temporarily, in succession to Major S. P. James, placed on special duty. Captain F. W. Sumner, on return to duty from leave of absence, has been appointed to Farrukhabad. Captain J. A. S. Phillips has been selected by H.E. the Commander-in-Chief in India for appointment as Substantive Medical Officer to the 121st Pioneers, stationed at Quetta Cantonment, in succession to Captain I. D. Jones. Captain L. Hirch has arrived home on leave of absence from India. Captain D. Heron has taken up duty as Officiating Agency Surgeon of the Second Class under the Foreign Department of the Government of India at Seistan Consulate and has been appointed *ex-officio* His Britannic Majesty's Vice-Consul for Seistan. Captain N. S. Simpson has been selected for appointment as Medical Officer in Charge of Plague Prevention in the United Provinces of Agra and Oudh. Captain N. G. C. McVean has been granted six months' extension of his leave of absence home from India by the Secretary of State. Captain J. Anderson has taken over Medical Charge at Hazara on appointment as Civil Surgeon. Captain J. Smalley has been permitted to return to India by the Secretary of State. Captain H. C. Keates has taken up duty at Campbellpore as Civil Surgeon. Captain A. W. Howlett, on completion of special duty, has been appointed to officiate as Civil Surgeon at Mussoorie, in succession to Major C. Milne.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

Cadet John Alexander Pridham, from the London University Contingent, Officers Training Corps, to be Lieutenant (on probation) (dated Feb. 6th, 1913).

TERRITORIAL FORCE.

Royal Army Medical Corps.

Eastern Mounted Brigade Field Ambulance, Royal Army Medical Corps: Major Edward J. Cross to be Lieutenant-Colonel (dated Dec. 7th, 1912).

1st Lowland Field Ambulance, Royal Army Medical Corps: William Cooper Gunn to be Lieutenant (dated Jan. 31st, 1913).

1st Northumbrian Field Ambulance, Royal Army Medical Corps: Lieutenant Edward Baines Kitching, from the List of Officers attached to Units other than Medical Units, to be Lieutenant (dated March 5th, 1913).

Attached to Units other than Medical Units.—The undermentioned officers resign their commissions (dated March 5th, 1913):—Lieutenant-Colonel Robert B. Graham, who is granted permission to retain his rank and to wear the prescribed uniform, and Captain John A. Angus.

For attachment to Units other than Medical Units.—Thomas Albert Fisher to be Lieutenant (dated Jan. 20th, 1913).

DEATHS IN THE SERVICES.

On March 1st at his residence, 5, Cresswell-gardens, South Kensington, S.W., Surgeon-General Sir Colvin Colvin-Smith, K.C.B., honorary surgeon to the King, in his 84th

year. He first served in the Burmese war, 1852–53, and was present at the operations before Rangoon in April, 1852, at the capture of the White House Stockade, at the attack and capture of Shor-da-goung Pagoda, and at the occupation of Prome (medal with clasp). During the Indian Mutiny he was with the Kamptee Moveable Column and the Saugor Field Division, taking part in the affairs at Khonee Pass, Narampore, Neemkaira, Budgam, and minor affairs on the great Deccan road. He also took part in the operations in the Palamow districts and the march to Jubbulpore (medal with clasp). In 1882 he served as principal medical officer of the Indian contingent during the Egyptian War, and was present at the battle of Tel-el-Kebir and the occupation of Zagazig (mentioned in despatches, medal with clasp, bronze star, the third class of the Osmanieh, and was made a C.B.). He retired in 1884.

Deputy Inspector-General of Hospitals and Fleets Edward Higgon Evans, R.N., aged 83. He entered the Navy in 1853, became staff-surgeon in 1862, fleet-surgeon in 1876, deputy inspector-general in 1884, and retired in 1888. He served through the Crimean War with the naval brigade under Captain Peel, on the *Diamond*, and attended the wounded after the battle of Alma. He was lent to the *Vengeance* during the epidemic of cholera in 1854. He was present at the fall of Sevastopol, and in 1861 was surgeon to the mission to the Court of Monaco.

FIRST LONDON DIVISION, R.A.M.C.(T.F.).

Major-General W. Fry, C.V.O., C.B., in declaring open the headquarters of the Royal Army Medical Corps (Territorials) at Chelsea, on March 1st, said that, as commander of the First London Division, he hoped that that new establishment would not only be a centre for training and instruction, but also a desirable social meeting place for medical units. He had always found, he said, the medical units well up in numbers, and in many cases they were the only units in a corps which were up to full strength. One reason for this, he thought, was the closer bond of discipline that existed between the officers and men.

THE ORDER OF THE HOSPITAL OF ST. JOHN OF JERUSALEM IN ENGLAND.

Lieutenant-Colonel Thomas Horrocks Openshaw, C.M.G., R.A.M.C. (T.F.), and Colonel Clement Godson (T.F.) have been appointed Knights of Grace of the Order of the Hospital of St. John of Jerusalem in England.

ARCHIV FÜR SCHIFFS- UND TROPEN-HYGIENE.

In the *Archiv für Schiffs- und Tropen-Hygiene* for January appears a paper by Dr. S. von Prowazek on Tona, a disease of horses in Samoa, a granulation tumour which forms usually about the fetlocks. It is a hyperkeratosis, often a warty formation, commencing with increased proliferation in the stratum lucidum; numerous bacteria appear in sections, and spirochætæ also. It cannot yet be decided whether these swellings are due to local irritation or to constitutional infection. The best treatment is removal by knife or cautery at the earliest appearance of the disease, with subsequent application of white precipitate ointment. Dr. H. Werner, who has been promoted in the service of the Tropical Medicine School at Hamburg, reports a case in which an attack of blackwater fever was brought on by a glycerine enema, and intensified by another two days later. Dr. Braunert reports on a voyage he made through the Marshall Islands. Syphilis is widespread, affecting some 10 per cent. of the population; the women had only families of one or two children, which he ascribes to the frequency of gonorrhœa, and the late age (25) at which they marry, after years of irresponsible gaiety. The infantile mortality is over 200. Dr. Schumacher reports favourably on nastin in leprosy and Dr. Canaan reports on an epidemic of dengue at Jerusalem. The characteristic features were the early exhaustion, the dirty white-coated tongue, and a leucopenia with relative increase of mononuclears. It is noted that dengue closely resembles pappataci fever clinically, but has a longer duration, 6 to 8 days against 3 to 5 days; the eruption occurred in nearly every case (head, arms, and hands, on the fourth day); in the other fever rarely oftener than in one case in three. The question of their identity or difference is left for the present unsettled.

Sir Arthur M. Branfoot, K.C.I.E., has handed over the presidency of the Medical Board of the India Office to Sir Richard Havelock Charles, G.C.V.O.

Correspondence.

"Audi alteram partem."

THE PANAMA CANAL AND MARITIME SANITATION.

To the Editor of THE LANCET.

SIR,—The letter of Dr. J. J. O'Connell, health officer of the Port of New York, directs attention to matters of great public importance.

Port sanitary authorities throughout the world are indebted to the United States Marine Hospital Service for the bulletin issued by them for a number of years and now issued by the United States Public Health Service. Valuable information is furnished by this document, whilst the weekly circular issued by the Local Government Board to authorities of British ports is a most valuable supplement. No one can question that any possible amplification of these systems which would tend to keep port medical officers of health all over the world more fully in touch with the sanitary conditions of the various ports, as well as with the condition of ships bound for their harbours, should be encouraged as far as it possibly can.

The opening of the Panama Canal will, from the point of view of sanitation, obviously have a great effect upon the ports of North and South America, but it will also, though to a less extent, have an effect upon British ports, analogous to that consequent upon the opening of the Suez Canal. The greater speed of vessels, the far more frequent intercourse, and the ease with which a voyage may be completed within the incubation period of, say, typhoid fever or smallpox, or within which plague infection may be kept alive by rats, are grounds for the closest attention to the sanitary condition of ports. Rigorous adhesion to the regulations laid down by the International Sanitary Convention of Paris (to which the United States is a party) should obviate the injury to sanitation and commerce which isolated action, prompted by want of knowledge or by fear, would occasion.

There is nothing in the sanitary condition of British ports to justify uneasiness, and the constant watchfulness in regard to incoming vessels ensures that imported disease will be effectually dealt with.

I am, Sir, yours faithfully,

E. W. HOPE,
Medical Officer of Health for the City and Port of Liverpool.

Liverpool, March 3rd, 1913.

To the Editor of THE LANCET.

SIR,—The letter you publish from Dr. J. J. O'Connell under this heading is very interesting, and coming from so eminent an official as the health officer of the Port of New York may be regarded as a very important pronouncement of policy. The United States is so much ahead of any other nation in maritime sanitation that we may be quite certain that some very far-reaching scheme will be adopted for vessels passing through the Panama Canal. The exact lines of policy are not clearly indicated in the letter, and I am inclined to think that Dr. O'Connell is for the present rather feeling his way. It is, however, quite evident that this canal will be taken in hand in a very different manner to what has ever been the case with the Suez Canal. It is pleasing to note that whatever the details of the scheme are to be there is to be no undue interference with the natural flow of commerce, and that it is thought the 12 hours during which vessels are on the move can be utilised for inspection, and disinfection and fumigation where necessary.

I have some considerable experience of the conditions of a locked waterway, and whilst acknowledging that inspection can be very satisfactorily carried out on a moving vessel, I am somewhat sceptical as regards satisfactory disinfection and fumigation under a like condition. The Manchester Ship Canal is sufficiently wide to allow large vessels to pass one another with comfort and safety, but as these cannot get steerage way at the speed they travel two or three tugs have to be utilised for progression and balance. If similar conditions obtain in locking and navigating the narrow parts of the Panama Canal the fumigation boat will probably be regarded as a hindrance to navigation; at any rate, it would perform its function under extreme difficulties. Further,

although there would probably be no tugs required on the lake, where the vessels will go at a much higher speed, one can again imagine how difficult it would be for a tender to keep in such correct relationship as to be able to pump, say, Clayton gas into her various holds. Steam disinfection of bedding, clothes, &c., could be carried out very well on such a tender, the articles being handed in at one end of the canal, and returned free from infection at the other.

Dr. O'Connell does not anticipate trouble from cholera, and, so far as this country is concerned, we do not anticipate trouble from yellow fever. We are mainly concerned with plague and (in my opinion) with small-pox. There would be no administrative difficulty in dealing with small-pox intection, as the methods adopted simply have concern with individuals and living quarters, but it would be very interesting to know the extent to which measures will be taken against plague infection. Will it be the policy to destroy all rats in "suspected" and "infected" ships by utilising some of the modern mechanical methods of forcing poisonous gases into the holds when full of cargo, and will the owners of merchandise be indemnified against possible damage? Whether vessels will be dealt with on the move or not there is, however, no doubt that infection can be thoroughly dealt with, if necessary, at either end of the canal before entry, and, to my view, without causing any great amount of delay. It will certainly be interesting to have more particulars, and I hope your correspondent will supply these in due course.

It is very gratifying to note that Dr. O'Connell regards the question from an international point of view, and there is no doubt that if his suggestion of transmitting information regarding infectivity of vessels to the ports to which they are bound be adopted, a most valuable asset will be placed in the hands of the port medical officers of this country. I am, Sir, yours faithfully,

W. F. DEARDEN,
Medical Officer of Health, Port of Manchester.

Manchester, March 3rd, 1913.

To the Editor of THE LANCET.

SIR,—Dr. J. J. O'Connell's letter in your issue of March 1st is not only of great interest but of vital importance, drawing attention, as it does, to a question that must affect the public health welfare of the whole world.

With the completion of the Panama Canal new routes will be opened up and with them trade relations will be changed between this and other foreign countries. Realising how frequent and extensive is the inter-communication between this country and others affected by dangerous endemic diseases the surprise must be that our country escapes as it does.

The disease above all others which we have cause to fear is plague, and more than one of our cities has been alarmed by a visitation of the dread malady within the past ten years. Fortunately, our domestic sanitation is improving every day, and the mischief-spreading rat is afforded a small opportunity to come into close relationship with human beings. But the appeal which Dr. O'Connell makes for concerted action should not be allowed to rest. There is no cause for alarm, but the policy of leaving well alone can be overdone. The best guarantee for preventing disease is the preparedness of the medical officer of health for eventualities. That is tantamount to saying, "Be prepared for war to maintain peace."

Our Public Health Acts are, generally speaking, far in advance of those of other countries, and one of the powers of these Acts vested in the Local Government Boards is the creation of port sanitary authorities. This power has not been exercised to the extent that one would desire. It was only after plague visited Glasgow that steps were taken to formulate a port sanitary authority for the Clyde. So far as I know there are no other properly constituted port sanitary authorities in Scotland. Yet in the course of the next decade Leith will be converted into a very influential seaport town. At present it is the second largest seaport in Scotland. When plague visited Leith some years ago everything became bustle and confusion. The sanitary authority grudged no expense to rid the port of the incubus of restriction on trade. As soon as the excitement died down and the Local Government Board declared Leith to be free from infection, the administrative charge lapsed into its usual rut.

The sanitary authority, although strongly advised by me to profit by the scare, contented itself by mentally reciting "sufficient unto the day is the evil thereof." This is not as it should be. Sanitary authorities are most susceptible to influence from headquarters, and an official hint that their houses should be put in order would soon achieve the desired result from seaboard sanitary authorities. There is room and need in every one of our large seaports for systematic official inspection and visitation of all ships coming from abroad.

At Leith our oversea grain trade is swelling year by year, and the foreign ports touched include those of all parts of the world. I welcome Dr. O'Connell's letter, and in a cursory way have offered an indication that more can yet be done in this country to strengthen our defences against the assaults of disease. I am, Sir, yours faithfully,

WM. ROBERTSON,
Leith, March 3rd, 1913. ——— Medical Officer of Health.

To the Editor of THE LANCET.

SIR,—The letter of Dr. J. J. O'Connell on the above subject in your issue of March 1st is one of importance and interest. It is a recognised fact that any port which wishes to enjoy a successful maritime trade must keep itself free from cholera, plague, and yellow fever, and it is almost of equal importance to the successful maritime commerce of that port that the ports with which it is in communication are also free.

The Panama Canal, which is happily controlled by the United States, will have the advantage of being supervised by the same sanitary vigilance as the United States exercises in all its great ports. Such extra precautions as may be found to be necessary will be indicated as a consequence of the direct communication opened up between the Pacific and the American ports in the Atlantic. Few, if any, countries have done more, or enjoyed greater success, in the field of sanitation than the United States, and the measures which will be found necessary for its own protection will be the greatest guarantee that the European ports could hope for in the prevention of infection entering the Atlantic *viâ* the Panama Canal.

The visitations of cholera and plague into European countries have not been, as would naturally be expected, increased by more maritime commerce, as indicated by large passenger vessels making long and rapid voyages. The ports infected have been invariably those in the Mediterranean, the infection being due mainly to coasting vessels, the outbreak being as a rule limited in extent. To-day, as in former times, the importation of plague and cholera into Europe would appear to be transmitted along the lines of commerce, such as rivers, railways, caravan routes, or by small coasting steamers. It is by these channels that the outbreaks of importance which have from time to time occurred in Europe have originated.

In recent years the epidemics of cholera in Russia appear to have spread from their endemic centres round the Caspian Sea along the trade routes of the large rivers of Central Russia. The last epidemic in Italy originated by means of small coasting steamers travelling from Asia Minor. Several of the small outbreaks of plague in England have been due to infected rats from tramp steamers arriving from the Black Sea. The chief sources of danger of infection to British ports still appear to be the ports in the Black Sea, the Near Eastern, and the Mediterranean ports.

Last year's International Sanitary Conference at Paris, which had for its object the limitation of cholera, plague, and yellow fever, had a far larger representation from the different States in South America than the Conference of 1903, when Brazil alone sent a delegate. Last year Brazil, Argentina, Bolivia, Chile, Colombia, Ecuador, Paraguay, Panama, and Uruguay were represented. The great object of such Conference is that of mutual protection, and while each port exercises precaution for its own protection against possible invasion by incoming vessels, it has to recognise international obligations by adopting every possible means to ensure that vessels which leave do so under conditions which justify a clean bill of health. By the terms laid down by the Conference each country is expected to supply for the information of other countries notifications of the occurrence of any cases of cholera, plague, or yellow fever, and it remains with the latter to make a declaration for the benefit of their own ports as to whether such notified districts should be regarded as infected.

There is little doubt that the different Governments using the seas connected by the Panama Canal will organise special arrangements for their mutual protection. It is difficult to realise that the opening of the Canal will expose Europe to any increased danger from such diseases as cholera, plague, and yellow fever. Special measures will need to be taken by the ports in the Atlantic and the Pacific which are now brought into such close relations by the Canal, and there is no doubt that the combined interests will be quite equal to cope with the altered conditions.

I am, Sir, yours faithfully,

R. E. LAUDER, M.D. Durh., F.R.C.S. Edin.,
Medical Officer of Health to the Port of Southampton.

Southampton, March 4th, 1913.

To the Editor of THE LANCET.

SIR,—Dr. J. J. O'Connell's letter in the last issue of THE LANCET advocating the establishment of an elaborate and compulsory system of sanitary inspection and supervision, including quarantine if necessary, of all vessels passing through the Panama Canal, is worthy of serious attention, for if no further serious landslides occur at Cucuracha or upheavals take place in the bottom of the Culebra cutting, the Canal will probably be open for the passage of large vessels early in 1914. Many of the suggestions made by Dr. O'Connell are admirable, especially the establishment of boarding stations, floating appliances for efficient disinfection, the establishment of isolation hospitals, &c.—to these we may add with advantage an abundant and pure supply of drinking water; but a compulsory system of quarantine regulations and supervision of vessels of all nations passing through the Canal is a subject which requires further consideration.

Dr. O'Connell is unduly pessimistic in reference to the dangers of serious epidemics of plague, yellow fever, and cholera, owing to the fact that South American and other danger ports will be brought nearer to some of the American ports *viâ* the Canal. The opening of the Suez Canal and the ever increasing speed of passenger and merchant vessels have combined to bring Europe much nearer to the East where these diseases are endemic than obtained formerly, yet the establishment of a stringent system of inspection and quarantine at Suez has never been seriously contemplated in Europe. A more thorough knowledge of the natural history of yellow fever, plague, and cholera, and improved sanitation in our ports have combined to reduce the dangers of invasion of these diseases by sea in particular, and England has consistently fought for a reduction of the restrictions to shipping entailed by quarantine regulations and the substitution of the latter by a system of intelligent inspection, removal of infectious individuals to hospitals, disinfection and supervision of contacts after arrival in port.

Quarantine regulations, if entirely administered by a competent staff of medical men, would probably cause little apprehension to other maritime nations interested in the matter, but as a matter of fact minor lay officials would have to be trusted to a large extent in actual practice, and those who have had much experience in maritime affairs know the weaknesses of the ordinary officials entrusted with such duties in many foreign countries.

Dr. O'Connell states that "political conditions place the sovereignty over the Canal zone in the hands of the American Republic. Back of all smaller questions now in controversy is the broad and high understanding of all the world, that this sovereignty is not to be exercised for a selfish or a national benefit, but for civilisation at large." The action of the American Government in giving preferential treatment to American vessels passing through the Canal has unfortunately destroyed the confidence of other nations in the disinterestedness of the former in this matter. The establishment of an elaborate system of quarantine regulations, &c., if seriously contemplated is a subject for international discussion in view of the many interests involved, and of the fact that the preventive measures adopted in this country differ so materially from the so-called quarantine regulations of most foreign countries.

I am, Sir, yours faithfully,

J. HOWARD-JONES, M.D., D.Sc. Edin.,
Port Medical Officer of Health, Newport, Mon.

Newport, March 3rd, 1913.

APPENDICITIS: A PLEA FOR IMMEDIATE OPERATION.

To the Editor of THE LANCET.

SIR,—At the debate at the Medical Society of London on Feb. 10th we all regretted the absence of Sir George Beatson, whom we had expected to hear. If he had been present he would not have had any doubt as to what I meant by "immediate" operation. Had I said "early" operation (as he suggests), there would have been an opening for uncertainty, as all people do not put the same meaning to the word. Some think that their arrival with luggage at a railway station is *early* if it is three minutes before the express is timed to start, whilst others, to be *early*, like to arrive about an hour beforehand.

I used the word "immediate" because I thought it had a clear and unmistakeable meaning. This is what Samuel Johnson says: "IMMEDIATE. 1. Being in such a state with respect to something else as that there is nothing between them." (I am sorry that I have not a Scotch dictionary at hand.)

The question for discussion was not as to the *expediency* of doing an operation in any particular or advanced stage of the disease, but one of *principle*. These are the words which I used, and by them I stand:

> A case of appendicitis should be operated on as soon as ever the diagnosis is made—within the first 12 hours, if possible—that the patient will then not only get well, *almost for certain*, but will get well very quickly.

As your report showed, surgeons came to take part in the debate from widely distant parts of England (and one illustrious surgeon from north of the Tweed), but they all agreed that the only way to make *safe* against surprises, dangers, and fatal results was by operating as soon as the presence of appendicitis is recognised—that is, "with nothing coming between" the recognition of the disease and the removal of the appendix. That there is risk and danger with every inflamed appendix all surgeons admit, but some appear to believe that they can disperse them by gentler means. In my opinion they over-estimate their power. Time and again a captain may bring his ship securely at high speed through fields of Atlantic ice, but the taking of such a risk is not justified by its success.

I am, Sir, yours faithfully,

EDMUND OWEN.

Great Cumberland-place, W., March 3rd, 1913.

GASTRO-ENTEROSTOMY IN PERFORATING ULCER.

To the Editor of THE LANCET.

SIR,—In the paper by Mr. Edred Corner on Perforation of Gastric or Duodenal (Pyloric) Ulcers, which appears in THE LANCET of March 1st, pp. 600–604, quotations are made from a paper of mine in the Transactions of the Royal Medical and Chirurgical Society (Vol. XC., 1907, pp. 254–257) which fail to do justice to my views. For example, Mr. Corner writes: "Yet Sir Berkeley Moynihan is not a man to 'say it very deliberately' (his own words) and advise the performance of gastro-enterostomy without good reason." The words quoted from me appear in a part of the paper which has nothing to do with gastro-enterostomy, but with the absence of shock in the early hours after the perforation of an ulcer. The full sentence is: "In the recent cases which I have seen—and I say it very deliberately—there has been no suspicion of shock."

The advocacy by me of the performance of gastro-enterostomy in cases of perforated duodenal ulcer dates from 1901, and is contained in a paper published in THE LANCET of Dec. 14th, 1901, pp. 1656–1663. The full paragraph in my paper in the Transactions of the Royal Medical and Chirurgical Society quoted by Mr. Corner is as follows:—

> I think the indication for gastro-enterostomy in perforating ulcer should be a positive one. It is not enough to say that because a patient has a perforating gastric or duodenal ulcer, therefore, in addition to the closure of the perforation, gastro-enterostomy should be performed. I think gastro-enterostomy should only be performed, first of all, when the closure of the ulcer has produced such a condition in the stomach as will impede the digestion and progress of the food, when there will be a permanent obstruction from the closure and the subsequent cicatricial contraction of the ulcer, or again, when there is a reasonable suspicion of the presence of a second ulcer, and especially if that ulcer

be nearer to the pylorus than the one which has been closed. In those two circumstances only, I think, is gastro-enterostomy justified or compulsory.

In the detailed analysis of my cases which was distributed to the members of the society present at the meeting (loc. cit., p. 395), I say: "If the ulcer be near the pylorus (on either side) and if its closure is at all likely to cause an obstruction; or if a second ulcer be seen in the vicinity of the pylorus, then gastro-enterostomy should be performed; in other cases it is not necessary." A general statement such as Mr. Corner makes to the effect that I advocate the performance of gastro-enterostomy "at the same operation as that at which the ulcer was sutured," is very seriously to misrepresent my meaning. For the differentiation of the two groups of cases, those in which gastro-enterostomy should be done, and those in which it is not necessary, and therefore should on no account be done, is, in my view, of very great importance, and is, I submit, stated in terms of such precision as should make misquotation or misunderstanding impossible. I am, Sir, yours faithfully,

Leeds, March 2nd, 1913. BERKELEY MOYNIHAN.

THE AFTER-EFFECTS OF GASTRO-ENTEROSTOMY.

To the Editor of THE LANCET.

SIR,—The report of the discussion on the After-effects of Gastro-enterostomy at the Surgical Section of the Royal Society of Medicine in your issue of Feb. 22nd, and the paper by Mr. A. W. Bourne in the *British Medical Journal* of March 1st, give one cause for serious inquiry into this subject. These communications tend to shake the confidence of the average surgeon and the profession generally in the efficacy of the operation of gastro-enterostomy, and I do not think that they should be allowed to pass without comment.

During the past fortnight I have communicated with all patients on whom gastro-enterostomy was performed during the year 1909 and during the past 12 months, with the exception of malignant cases, and, of course, of those who died immediately after operation. Previous to 1909 I consider that my operative procedure in these cases was imperfect, hence I think it would serve no good purpose to go back further than that year; but the cases done in 1909 may reasonably enough be looked upon as providing "late" results, while those of the last 12 months provide "immediate" effects. Mr. Bourne's statistics must, of course, be judged from the same standpoint, but at the same time it does not appear from his paper that the technique pursued at St. Mary's Hospital has been altered since 1910. I communicated with 61 patients, and received replies from 53. Six of the remaining 8 had, in the language of the Post Office, "gone and left no address." Of the 53, 49 declared themselves to be absolutely free from symptoms which had existed previous to operation, and, further, had none of the symptoms detailed by Dr. A. F. Hertz, who introduced the discussion at the Royal Society of Medicine. Of the 4 cases who had complaints, 1 was done in 1909. This patient states that, while she is relieved of her stomach symptoms, she has a discharge from the bowel and an occasional swelling in the left iliac region. She is known to be an alcoholic. So far as I can make out her symptoms are due to meso-sigmoid adhesions and accompanying colitis. Of the 2 1912 cases, one complains of occasional "bilious attacks," but is otherwise well; and the other one, who had possibly carcinomatous ulcer which could not be excised, states abruptly that he is not improved and suffers from "pain in the stomach, swelling, cough." This gives a percentage of 5·7 cases (roughly) which are not entirely relieved. Such after-results can surely be due only to the technique of the operative procedure adopted.

In a paper published in THE LANCET of Dec. 3rd, 1910, p. 1610, I drew attention to the principles on which I considered a proper operative procedure should be based, and the only modification of that procedure which I now adopt is the excision of every ulcer when practicable. To recapitulate shortly, I consider that the following are the most important points to attend to: (1) the position and (2) direction of the opening in the stomach (as near the pylorus as possible without causing angulation of the small intestine proximal or distal to the stoma), (3) the size of the opening (I make the opening in the stomach from the lesser to the greater curvature), and (4) the treatment of any extra-gastric abnormality which might possibly have a deleterious reflex action on gastric function. It will be seen that rapid drainage of the stomach is less aimed at than an attempt to make the post-operative conditions conform to normal function. As indicated in my paper referred to, even in so-called atonic stomachs the tone can be restored by appropriate after-treatment, while I find, further, that cases of normal acidity do as well as those with hyperacidity, and cases where no evidence of present or previous ulcer is found do as well as cases where such conditions are present. I believe still what I have previously said[1] that the motor and secretory functions of the cardiac and pyloric parts of the stomach are distinct in action, there being a saccular cardiac portion and a tubular pyloric portion during digestion, which are most distinctly marked the more normal the stomach. The commencement of the pyloric tubular portion is indicated by what I have termed, for the sake of brevity, the "middle sphincter." One should appreciate, in the performance of gastro-enterostomy, the effects of tonicity of the pyloric tube and place the stoma somewhere in it.

Dr. Hertz gives details of "certain unfavourable after-effects" in "many patients" subjected to gastro-enterostomy and afterwards investigated by him. Dr. Hertz (in THE LANCET of Dec. 10th, 1910, p. 1724) criticised very adversely my interpretation of the motor and secretory functions of the stomach on which I base my operative procedures. The results I now publish appear to confirm strongly my interpretation, and should, I think, lead Dr. Hertz to modify the adverse views he then put forward.

I am, Sir, yours faithfully,

Aberdeen, March 3rd, 1913. H. M. W. GRAY.

PHYSICAL CHARACTERISTICS OF MIGRANTS TO THE UNITED STATES.

To the Editor of THE LANCET.

SIR,—In your interesting leading article on this subject in your issue of March 1st, p. 626, it will be noted that there is one characteristic common to the descendants of immigrants of various races—viz., the narrowing of the face. It would be interesting to know whether this narrowing is accompanied by a lengthening of the face; if so, it probably corresponds to a modification of the facial contour which is affecting our population to an enormous extent and which is seemingly associated with adenoid vegetations, nasal stenosis, and mouth-breathing.

The generally accepted hypothesis is that the constantly open mouth puts the muscles on slight tension and thus causes compression of the developing maxillæ, producing the narrow arch. The counter-pressure of the tongue is also lost, as in mouth-breathers the tongue is on the floor of the mouth and does not fill the oral cavity as is the case with normal breathers. This narrowing of the face is accompanied by increased obtuseness of the angle of the mandible, and lengthening of the face.

An annotation which appeared in your columns of Feb. 15th, p. 476, on "Contraction of the Dental Arch and Nasal Stenosis" says that Dr. Matthew Cryer considers that the muscles causing contraction are probably the palato-glossus and the palato-pharyngeus. In this, I think, most people will agree with him. But Dr. Cryer also advances a new hypothesis. He says that the effect of the narrow arch is to compress the tongue and force it back into the oro-pharynx. The tongue "pushes up the soft palate against the post-pharyngeal walls and cuts off respiration through the nose." This seems to me to cut off respiration through the mouth as well; let anyone try the manœuvre for himself. Professor A. Keith considers the alteration of facial contour is only partly caused by mechanical means, and thinks that one or more of the ductless glands are concerned. His article on "Progeria" recently appearing in your columns[2] would seem to confirm this.—I am, Sir, yours faithfully,

Harley-street, W., March 3rd, 1913. WM. RUSHTON.

[1] THE LANCET, Feb. 22nd (p. 549) and July 25th (p. 224), 1908.
[2] THE LANCET, Feb. 1st, 1913, p. 305.

THE ABDOMINO-PERINEAL OPERATION FOR RECTAL CANCER.

To the Editor of THE LANCET.

SIR,—In answer to your correspondent Dr. R. Leonard Ley, writing in THE LANCET of Feb. 22nd under the above heading, I should like to point out that he has fallen into one or two errors owing to the fact that he is not acquainted with the more recent developments of this operation. In the first place, he considerably over-estimates the mortality of the operation in the hands of those who have had some experience in its performance. He puts the mortality at 40 per cent. This is certainly much too high at the present time, even in non-selected cases. My own mortality for this operation during the last three years comes out well under 20 per cent., and I have never attempted to select my cases in the sense of choosing those most suitable from a statistical point of view; they have only been selected from the point of view of giving the patient a reasonable chance of cure; and quite half the cases have been men, and a number of them over 60 years of age. 45 per cent. of my own patients in the last three years have been over 60 years of age and 60 per cent. over 55 years of age. In an operation of this magnitude, performed as it must necessarily be upon elderly patients usually in a poor state of health, there will always be a serious risk, but with improved technique and experience the mortality has been very much lowered, and my own record would show a still lower mortality had I not had the misfortune to lose two cases from embolism within the last year.

Dr. Ley states that the chief cause of death from this operation is sepsis. I quite agree with him that this was so in the early cases, but it is not now. I have only lost one case from sepsis in the last three years, and with careful technique this danger should be avoided. The success of this operation, as in so many surgical procedures, depends upon the technique, not only of the operation, but also of the preliminary preparation of the patient and the after-treatment of the case, and it is here quite as much as in the actual performance of the operation itself that care and experience tell.

I see no advantage in the performance of a preliminary colotomy, and one very serious disadvantage—namely, that there will be grave risk of infection from the colotomy opening at the second operation for the removal of the growth. I agree with Dr. Ley that the operation should certainly never be performed when the bowel is full of "evil-smelling fæces." It is essential that the bowel should be thoroughly cleared out before the operation, but this can be satisfactorily done without having recourse to a preliminary colotomy. Of course if the stricture is so tight that there is practically obstruction a colotomy must be performed, but this is seldom the case when it is feasible to remove the growth at all. In many cases, especially in women, there is no necessity for a colotomy, it being possible to bring the bowel down, even after extensive resection and thorough clearing out of the glands. I do not think that a preliminary colotomy saves much time in the performance of the operation. The entire operation in a favourable case—that is to say, in a thin woman, where there is a fairly small growth—can be performed in less than an hour, and this is not an unduly long period. I believe the mortality from this operation will be still further reduced as the result of experience and improved technique.

I am, Sir, yours faithfully,
P. LOCKHART MUMMERY, F.R.C.S. Eng.

Cavendish-place, W., March 4th, 1913.

SUPRARENAL EXTRACT IN GRAVES'S DISEASE.

To the Editor of THE LANCET.

SIR,—Mr. James Berry in his lecture on "The Surgery of the Thyroid Gland" asks for evidence in favour of the use of suprarenal extract in Graves's disease as recommended by the late Dr. George Gibson. May I contribute a fragment? Mrs. A has been under treatment at intervals since March, 1910, for Graves's disease with the usual symptoms of moderate severity. Improvement was always obtained by a mixture of iron, belladonna, and strophanthus. In October and November, 1912, however, these remedies entirely failed, and the patient seemed in a serious condition from anæmia and heart weakness. I happened to have a bottle of Allen and Hanburys' elixir of suprarenal gland and gave her this with advice to rest. I called at her house last week and on inquiry she said: "That was wonderful medicine you gave me. I cannot live without it." The evidence which further questions elicited seems as conclusive of cause and effect as such testimony can be.—I am, Sir, yours faithfully,

C. E. H. WARREN.

Dagnall Park, Selhurst, S.E., March 3rd, 1913.

A POINT IN EXAMINING URINE.

To the Editor of THE LANCET.

SIR,—When testing urine for sugar we usually add a few drops of urine to the freshly boiled Fehling's solution, and then boil them together. But I find that if the urine be poured from a pipette on to the surface of the just boiled Fehling's solution, and the tube be set up for a minute in the test tube rack, we may get a sugar reaction to manifest itself from glucose solutions too dilute to precipitate copper oxide when the test is done in the usual way. The oxide forms at the interface and in the urine, where there is little caustic alkali or tartrate to dissolve it. This is of interest in examinations for life insurance, and I do not see it chronicled in the usual text-books.

I am, Sir, yours faithfully,
W. E. HOME,
Pathologist to the Hospital.

Royal Victoria Jubilee Hospital, Victoria, Vancouver Island, Feb. 3rd, 1913.

*** This quite useful observation has been made before by the late Dr. W. Howship Dickinson.—ED. L.

A DISCLAIMER.

To the Editor of THE LANCET.

SIR,—We regret that our names have appeared in an article on the treatment of consumption which was published in the *Daily Telegraph* on the 1st inst., and wish to state that the article in question was written and published without our knowledge and consent.

We are, Sir, yours faithfully,
J. CAMPBELL MCCLURE.
F. MEHNARTO.
J. HORNE WILSON.
KENNETH E. ECKENSTEIN.
R. TANNER HEWLETT.

Welbeck-street, Cavendish-square, W., March 4th, 1913.

THE RELATIONS OF OPERATOR AND ANÆSTHETIST.

To the Editor of THE LANCET.

SIR,—In a recent leading article[1] in THE LANCET it was pointed out that if any issue ever came to be tried in the law courts involving any question as to the mutual relations of surgeon, anæsthetist, and patient the result must depend upon the ordinary common law applied to the merits and circumstances of the individual case. Hitherto, as far as I am aware, the contingencies that might have led to litigation have not done so, and if the administration of anæsthetics in dental operations be taken into account it will be appreciated that an enormous number of occasions on which differences of opinion could arise between anæsthetist and operator are characterised by harmonious coöperation in the patient's interest.

The most easily to be imagined case in which the relations of an operator, surgical or dental, and an anæsthetist might come to be discussed in a court of law would be an action for negligence brought by a patient. Actions for alleged negligence by patients against surgeons or dentists are, of course, not uncommon, and a surgeon or dentist, if he found himself blamed by a patient, might allege that failure on his own part to achieve a successful result was due to something done or omitted by the

[1] THE LANCET, Dec. 7th, 1912, p. 1599.

anæsthetist in connexion with the operation, for which the last-named should rightly be made liable. In any case where the operator ascribed failure on his part to the act of the anæsthetist, but was prepared at the same time to justify that act in the circumstances of the case, and where the anæsthetist accepted the position indicated, a plaintiff would probably have too little chance of success to persevere in his claim. On the other hand, in a case in which the operator was prepared to be a witness on the side of the plaintiff, and in which the issue to be tried was whether the anæsthetist performed his task with a fair, reasonable, and competent degree of skill, the anæsthetist, while admitting that he acted wrongly from the point of view of a prudent or skilful anæsthetist, might allege that he did so under compulsion exercised by the operator. The anæsthetist will, of course, be liable for any default of his own committing, and it would not be easy for him in such a case as is here imagined to shift the responsibility.

The anæsthetist could hardly be held on any such occasion to be subject to the orders of the operator, so as to deprive him of his position of responsibility to the patient. His relation to the patient is similar to that of the operator, who very generally introduces him, but who, provided that he exercises reasonable care in doing so, cannot be deemed to incur any legal liability for the conduct by his colleague of his particular share in the operation.

We may turn from actions for negligence brought by patients to consider whether any other occasion might produce litigation involving the relations between an operator and anæsthetist. We may imagine special arrangements to have been made between an operator (a surgeon or a dentist) and an anæsthetist to work together. Under such a contract the mutual relations of the two parties might be defined and might differ from those which I have suggested above, so that either of them might be found suing the other for an alleged breach of an agreement to perform certain duties in a certain way.

I am, Sir, yours faithfully,

Feb. 24th, 1912. JURISPRUDENTIA.

*** We do not think that such an arrangement is either likely to be met with or desirable. The cordial understanding between operator and anæsthetist necessary for the efficient performance of their respective shares in acts of grave importance to a third person will it is to be hoped long continue to prevent any possible differences of opinion between individual members of two branches of the same profession from being ventilated in courts of law.—ED. L.

THE MEDICAL PROFESSION AND THE NATIONAL INSURANCE ACT.

To the Editor of THE LANCET.

SIR,—Your correspondent Dr. D. J. Munro brings forward the pledge. I confess that I wished and thought the pledge was dead. I remain under the impression that it died a natural death when the report of the Advisory Committee appeared, and that the Representatives occupied Jan. 17th and 18th in writing out the death certificate. When he says he is bound by the pledge he is in error, for he is in reality bound by the conviction that the terms and conditions of service are not satisfactory. With wider knowledge and after much thought I have arrived at the opposite conclusion. There are two parties diametrically opposed to each other. The terms of the pledge, therefore, are impossible of accomplishment—"satisfactory to the whole profession." A compromise has been arrived at to give the Act a fair trial for three years. The resolution of the British Medical Association prepares the way. Those who think well of the Act are at liberty to accept it without any feeling that they are disloyal. Those who are of the other opinion are equally at liberty to refrain, or to experiment and save themselves from being ousted out of a portion of their income. Dr. Munro shivers with horror at the "panel system." His name has been on a panel of qualified practitioners for a dozen years. It is asserted that the majority of the metropolitan practitioners are opposed to the Act. I knew that five years ago. They are not "die-hards," but "do-nothings," "pigheads," ready to "brand" with a "stigma" anyone who does not happen to agree with them at the moment. My letter was not based on any assumption that the Act was right or wrong; it is a question of ethics.

With regard to the handbills, three men are directly responsible; all are members of the Association and, I think, Licentiates of the College of Physicians. Among the 77 or 80 doctors on the Kensington panel at the time (I limit myself to Kensington) were undoubtedly some members of the Association. As yet there is no sign of the Central Ethical Committee taking the matter in hand. Until my questions are answered no doctor on the panel can regard himself as under any obligation to the Association.

Will the College of Physicians endorse the conduct of its Licentiates?—I am, Sir, yours faithfully,

GEORGE CRICHTON, M.D. Edin.

Longridge-road, South Kensington, Feb. 25th, 1913.

THE NATIONAL MEDICAL UNION.

To the Editor of THE LANCET.

SIR,—It has come to the knowledge of the executive committee of the National Medical Union that misleading statements as to the methods and objects of this association have appeared in many newspapers during the last few weeks throughout the country. These statements must have been founded on a mistake, the authors having confused the aim of two separate societies, the names of which are somewhat similar.

The National Medical Union has been in existence for nearly 15 months, and is well known. The National Medical Guild is a new body which has been lately originated in London, and which is now making application for recognition as a trades union. The National Medical Union as constituted at present is a society composed exclusively of medical men who do not intend to take service of any kind under the National Insurance Act as it now stands after April 14th, 1913. The Union exists primarily for the interests of these men. It has no intention of working on trades union lines. It aims at uniting "non-panel" men all over the country, at furthering their interests, and at defending their rights; it seeks to preserve the honour, independence, and efficiency of the profession; and it hopes to form a "rallying ground" for doctors who, having accepted service on panels and found out the impossibility of doing sound work thereon, are desirous of retiring therefrom.

The Union will work for the provision of adequate medical attendance for the industrial classes at reasonable remuneration on the lines of general practice, and it will seek for such amendment of the National Insurance Act as will secure this and safeguard the interests of both patients and doctor. The National Medical Union, whilst sympathising with the general attitude of the National Medical Guild, is not at the present time in favour of the promotion of their common aims by trades union methods.

We are, Sir, yours faithfully

G. A. WRIGHT, President.
WILLIAM COATES, Chairman.
J. WEBSTER WATTS, Secretary.
E. W. FLOYD, J. SKARDON PROWSE } Honorary Secretaries.

DONATIONS AND BEQUESTS.—The late Lord Ilkeston has left £800 on trust for the foundation of a scholarship at the University of Durham in memory of his late daughter, Winifred Foster, who was a student there, the income to be applied to a "Winifred Foster Scholarship," to be awarded to a woman student who requires help to maintain herself at the University, and shall be a student and reside at such University, and who shall have taken a sufficiently high place in the matriculation examination and be under the age of 22 years.—Subject to a life interest, the late Mr. D. M. Forbes, medical officer of health for the Eastwood urban district council, Notts, has left by will £1000 to the Nottingham General Hospital and £500 to the Eastwood Nursing Association.—Sir Gilbert Wills, M.P., and his family have offered £5000 in memory of the late Sir Frederick Wills to the Royal Victoria and West Hants Hospital, Bournemouth, towards the building of an administration block at the Boscombe branch of the hospital.—An anonymous donor has promised a gift of £10,000 to the Middlesex Hospital.

MEDICAL PRACTICE UNDER THE INSURANCE ACT.

(BY OUR SPECIAL COMMISSIONER.)

I.—THE STRUGGLE AT SOUTHAMPTON.

Professional Harmony.

THE time is now at hand when we may leave the realms of theoretical controversy and approach more certain ground. We are no longer facing solely a question of the good or ill that may result from the National Insurance Act. To-day the new law is in active operation, and therefore it is already possible to note and record some of the consequences that are becoming manifest. To do this throughout the country in an exhaustive manner would obviously be impossible; the conditions of medical practice vary considerably from locality to locality, and the hardship of one place may weigh lightly in another, while the grave abuse in a northern county may not have its counterpart in the south. To study the working of the Act and gauge what effect it is producing in real practice I selected Southampton for my first investigation, because both the medical profession, on one side, and the population affected by the Act, on the other side, are exceptionally well organised. More than once there has been occasion to describe the admirable sense of union which has brought the vast majority of practitioners at Southampton together so as to deal with the evils that result from contract practice. On the other hand, the great friendly or benefit societies and the trades unions are very numerous and powerful at Southampton. How the medical practitioners of this port formed a provident medical association has been related in these pages, and early in the discussion on the Insurance Bill it was suggested that this organisation might be used as the medium for the administration of the medical benefits under this scheme, should the Bill become law.[1] Later in the day, however, it was evident that greater unanimity in the profession would have to be secured. The Provident Medical Association, for instance, was frankly opposed to the four medical men whom the Federation of Friendly Societies had imported and to whom they paid regular salaries for their full time. But when it became a question of fighting the Government it was felt that all such minor quarrels and differences must be set aside so as to secure absolutely united action. A provisional local medical committee was formed with its doors open wide to all. Instead of ostracising them, special overtures were made to the club officers, and when they consented to fall into line with all the other members of the profession their presence was particularly welcomed. This generous and broad policy was fully justified by the events, for these practitioners, who had known what it felt to be called "blacklegs," proved better fighters in action and more staunch to the medical union than several of its oldest members. The proposal was that if the Bill were modified in the sense desired by the medical men, and in accordance with the generally expressed medical policy, then the provisional committee thus formed would become the permanent Local Medical Committee under the Act. Nor has the last word been said; for, in spite of the disappointments that have ensued, this policy may yet be brought about. Having united the entire local profession, including the club doctors with whom they were formerly in conflict, the provisional local medical committee determined to stand out and refuse to go on the panel. To make quite sure of fidelity to the cause, one of the medical men who was employed by the Federation of the Benefit or Friendly Societies was elected on a committee consisting of 15 members appointed to carry on negotiations. Yet his interest in going on the panel was greater than that of most of the Southampton practitioners. He ran the risk of enormous loss by standing out. Nevertheless, he was quite ready to incur this risk. Such harmony in the medical profession had never been known before in Southampton. It was then said that whatever else the Act might do, its discussion had engendered a spirit of union among practitioners stronger, more unanimous, and more widely spread, than anything shown in previous struggles. Every practitioner in the borough had been tested; they had all gone through an ordeal which had proved who could be trusted, and everything gave good promise of victory in the approaching fight. The old Southampton Provident Medical Association formed by the Medical Union was converted into the Public Medical Service to which all the practitioners were attached, and through which it was proposed to treat insured persons and to include the uninsured relatives and dependents that were not included in the scope of the Act.

[1] See THE LANCET of Feb. 13th, 1904, article on "The Battle of the Clubs," and June 24th, 1911, p. 1731.

The Betrayal.

A great disappointment, however, was in store. I am informed that the change of mind of a single influential man caused all these valiant preparations to collapse. On the Sunday preceding Jan. 1st, first one, then another, then two or three medical practitioners together, went about asking their colleagues whether they would go on the panel if a panel was formed. In the circumstance, such a question indicated hesitation, and as the instigator of surrender was a member of the committee of 15 a panic was caused. Three or four practitioners were so alarmed that they at once enrolled themselves on the panel, and the united front which the profession had so bravely shown up to this date was broken. Doubtful as to what might follow, the fight on the lines at first intended had to be abandoned, and the action of the medical profession was entirely reversed. Instead of refusing to join the panel, it was decided practically to swamp the panel, and to-day no less than 45 practitioners have inscribed their names. Of course, the reversal of policy was a great disappointment to those who had pinned their faith upon professional solidarity, and it has inevitably lowered the medical profession in the eyes of some of those whose esteem it is important to maintain, and who have seen only the alteration of tactics and have understood little or nothing of the pressure that has been brought to bear on the medical profession. The organised working classes were quite disposed to sympathise with the medical profession had its members continued a plucky fight. As it is, some of their leaders have not hesitated to sneer at the strike-breakers, although the Public Medical Service was attempting to obtain terms which to some extent militated against the interests of the workmen.

An Ideal Arrangement Realised.

This is the more unfortunate as the object now held in view by many practitioners is to establish a widely and easily applied system of contracting out of the Act so far as the medical service is concerned. But this can never be done if the best organised and largest section of the insured are actively opposed. Obviously, the great benefit societies and the trades unions would be the best allies; and it is through the action of one of the latter, the Seafarers' Union, that almost ideal conditions have been secured for one branch of the work at Southampton. Here the majority of the Seamen's National Insurance Society belong to this very active and bellicose trade union. Their insurance society under Clause 48 of the Act is empowered to make its own regulations in regard to medical service. This society, in its national capacity, decided to appoint in the various ports where it has branches a few selected medical officers to attend those members who fell ill when on shore. But at Southampton they could not do this: the profession was too well organised. It was not possible to apply to individual practitioners, for these latter with great discipline referred the applicants to the Southampton Public Medical Service. The latter is, of course, in favour of the free choice of medical adviser, and would not hear of the proposal to force upon the members of the Seamen's National Insurance Society a choice of medical attendants restricted to five or six specially selected doctors. Besides, who was to make the selection and on what principle would it be made? The Insurance Society's managing committee would naturally have liked to make this selection themselves. It would have added to their importance by enabling them to exercise a piece of patronage, but their argument is that they could better control the medical men on whom they bestowed a remunerative preference. Medical practitioners, however, objected to be controlled by committees of working men; the only control they admit is that of the one and only person who is really concerned—namely, the patient himself, otherwise their professional conduct is sufficiently controlled by the unwritten law of professional behaviour. Therefore the

medical profession claims for the patient the right both to select and to change his medical adviser till he has found someone in whom he has full confidence. Thus it came about that the Seamen's National Insurance Society at Southampton has not been able to secure the services of five or six medical officers; but a much better solution of the difficulty has been forced upon them. They have had to accept the principle of the free choice of medical adviser, and their members can now call upon any of the 60 or so members of the Public Medical Service. They are thus better off than many insured persons who can only choose from the medical men inscribed on a smaller panel. The seamen, therefore, obtain the services of the practitioners who are on the panel and those who are not on the panel; and if any complaint should arise it would be for the entire profession, and not merely a portion of the profession, to deal with it. Then the difficulty that arises when the medical attendant of the wife and family is not on the panel and the insured bread-winner has to call in another, and to him, unknown practitioner, is removed. Every practitioner belongs to the Public Medical Service, though they are not, of course, all on the panel.

The Giving of Unnecessary Offence.

A satisfactory arrangement having thus been made with one important labour organisation, one is bound to ask if this example could not be extended to other similar bodies? The fact that Clause 48 of the Act only applies to a few organisations constitutes a negative reply; but much could be done if good-will was displayed on both sides. Unfortunately, my Southampton experience tends to show that a good many medical men have injured their position and opportunities by expressions and conversations which have displayed more prejudice than sagacity. Considering the large share of representation and influence that the organised working class must exercise on the County or Borough Insurance Committee, it is absolutely foolish to give unnecessary offence to the working-class leaders. It has been my good fortune to have personal intercourse with many of the most influential popular leaders, and I cannot render a better service to all parties concerned than to deprecate words spoken on either side which may produce unnecessary and unwarranted friction. It seems to me that in the present state of affairs medical men in particular should measure their language. Thus the opinion has been expressed in Southampton that there were men who would squander in drink the 30*s.* maternity grant given to their wives. Doubtless there may be a few such selfish brutes, but males of this order are not confined exclusively to the working class. In my experience it is in the poorest sections of the community that the greatest readiness and generosity are displayed in helping each other in moments of sickness and difficulty.

The Question of Control.

Nor will any good be achieved if medical men adopt an attitude in regard to lay management which in the event proves a wrong one. To quote the words of a prominent labour leader on the Southampton Borough Insurance Committee: "It is absurd," he said, "to suppose that laymen had any idea whatsoever of exercising a technical control." But, he continued, they could discuss such simple matters as carelessness in giving advice. As elected members on the Insurance Committee it was their duty to maintain the powers the Act had conferred upon them so as to prevent, and if possible to punish, gross incompetence and neglect. A lady member of the Insurance Committee who, being also a member of the board of guardians, knew something of the condition of the poor, gladly—in fact, enthusiastically—recognised that as a rule the medical practitioners of Southampton did their best for their patients, and that there was no fault to find. But there were exceptions even in Southampton, as all knew full well. Besides, a tribunal was needed to judge matters not solely from the point of view of the medical profession, for the public was equally concerned in the safeguarding of its interests. Under these circumstances it was urged that there was no other course open than that of making the best use possible of the Borough and County Insurance Committees and the Medical Service Subcommittees. But the control was to be a business and administrative control, and would not interfere with scientific and technical matters.

(To be continued.)

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The New Lecturer in Mental Diseases at the University of Liverpool.

THE Council of the University at its meeting held on Feb. 25th appointed Dr. T. P. Cowen, medical superintendent of the County Asylum, Rainhill, to the lectureship in mental diseases rendered vacant by the resignation of Dr. Joseph Wiglesworth, late medical superintendent of Rainhill County Asylum.

University of Liverpool: Proposed Veterinary Hospital.

Professor Ernest E. Glynn, who was recently appointed to the chair of pathology at the University in succession to the late Sir Rubert Boyce, delivered a public inaugural lecture on Feb. 21st on the Study of Disease in Domesticated Animals. He strongly advocated the addition of a veterinary hospital to the School of Veterinary Science in Liverpool.

David Lewis Northern Hospital.

A special service in aid of the funds of the above hospital was held on Sunday, March 2nd, at St. Luke's Church. The Lord Mayor and members of the city council attended in state. The sermon was preached by Archdeacon Fletcher, of Chorley. The service was also attended by members of the committee and several of the honorary medical staff of the hospital. The collection realised £61.

March 4th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Medical Certificates under the National Insurance Act.

A SUM of £50,000 has been given Ireland towards the cost of medical certificates of sickness and other expenses of administration, owing to the absence of medical benefit in Ireland, and at present negotiations are going on between the Conjoint Committee and the Insurance Commissioners as to the rate of payment for certificates. Both parties have agreed to the principle of remuneration based on a capitation rate, and that a sum representing a penny per insured person should be deducted from the £50,000 to defray expenses of administration by Insurance Committees, and a further limited amount for payment to hospitals in respect of certificates given to out-patients. The Commissioners have submitted for the consideration of the Conjoint Committee three schemes; in the first there are three broad divisions (the capitation rates in which would be 1*s.*, 2*s.*, and 1*s.* 2*d.*): (1) six county boroughs (Dublin, Belfast, Cork, Limerick, Londonderry, and Waterford); (2) the most inaccessible areas; and (3) other parts of Ireland. In scheme No. 2 there are four classes, the respective rates being 9*d.*, 2*s.*, 1*s.* 4*d.*, and 1*s.* 6*d.*—namely, (1) the six county boroughs and towns of over 10,000 population; (2) the most inaccessible areas; (3) the counties with a net acreage per person of less than 7; (4) the counties with a net acreage per person of 7 and upwards. In scheme No. 3 Ireland is divided into four classes as follows (the respective capitation rates being 10*d.*, 2*s.*, 1*s.* 3*d.*, and 1*s.* 6*d.*): (1) the six county boroughs and towns of over 10,000 population; (2) the most inaccessible areas; (3) the counties with a net acreage per person of less than 7; (4) the counties with a net acreage per person of 7 and upwards. It is assumed that in Ireland there will be 750,000 insured persons. The Commissioners also offer for consideration a capitation fee of 4½*d.* (exclusive of drugs) for the domiciliary treatment of insured persons suffering from tuberculosis, this rate to be in addition to the capitation rate for medical certification.

Maternity Benefit in Ireland.

A conference of Approved Societies, summoned by the Irish National Health Insurance Commission, was held at the Gresham Hotel, Dublin, on Feb. 27th, for the purpose of considering the administration of maternity benefit, and of arranging a basis of fees between the medical profession, midwives, and insured persons. The chairman of the Commission (Mr. J. A. Glynn), who presided, in the course of an address, made several suggestions to the representatives of the societies. In opposition to the view of the Local

Government Board that only in exceptional cases might attendance on a patient entitled to the maternity benefit be given under the Medical Charities Act, Mr. Glynn held that only in exceptional cases should a fee be paid to either medical man or midwife. With regard to the fee that ought to be paid, the chairman said that, having considered the matter carefully and obtained the best advice possible, the Commissioners thought that the fee for the doctor should be 7*s.* 6*d.*, or for the nurse 5*s.* In Wales 15*s.* had been agreed upon as a suitable fee for the attendance of a medical man, but he thought such a fee too high in Ireland. He further declared that the Commissioners would approach the Local Government Board with a view of getting societies and boards of guardians to agree as to the class of case for which tickets might be issued under the Medical Charities Act. Resolutions in accordance with these views were passed unanimously. Mr. Glynn's proposals will certainly not be acceptable to the medical profession, and it is very unlikely that any medical man will be persuaded to work for the miserable fees offered. The decision as to what patients may rightly be attended as "poor persons" under the Medical Charities Act is a matter for individual guardians under advice from the Local Government Board and subject to correction by the courts. The Local Government Board a few weeks ago issued a circular letter dealing with the question, and it is entirely outside the purview of the Insurance Commissioners. In making a suggestion as to a suitable confinement fee, Mr. Glynn declared that the Commission had obtained "the best advice possible." It is noteworthy that neither the medical nor nursing members of the Advisory Committee were consulted, nor was the Conjoint Committee as representing the medical profession. The suggestion that the fee in Ireland should be only half that in Wales is monstrous, in view of the much greater distances that have to be travelled in rural Ireland. £1 is, as a matter of fact, the usual confinement fee paid at present among the industrial classes in the North of Ireland. If the societies agree to Mr. Glynn's suggestion as to the maximum maternity fee they should pay, only one result can follow—the handing over of midwifery practice in Ireland to the cheapest and worst of midwives and to handywomen. For such an event the Commissioners must take the full responsibility.

The Medical Benefit Committee.

The committee appointed by Mr. Lloyd George to inquire into the question of the advisability of extending medical benefit to Ireland met in Belfast on March 4th. The committee has refused to hear evidence from Poor-law bodies (though the question of Poor-law administration must be considered), from hospital authorities (although medical benefit without provision for institutional treatment in hospitals is useless), and from the local medical profession. Instead it will hear one person nominated by the conjoint committee to represent many diverse interests. It has approached, on the other hand, the Friendly Societies asking them to give evidence, while such representative bodies as the Chamber of Commerce and the Linen Merchants' Association have declined the invitation on the ground that such benefits are not needed in Ireland, since similar benefits are already available, and that the inclusion of Ireland would involve additional cost to the community without compensating results. Rightly or wrongly, the general feeling is that a scheme is already arranged and that the hearing of evidence is a mere placebo to the public, and that on Jan. 1st, 1914, medical benefit will be in existence in Ireland.

Belfast Practitioners and the Medical Benefit Committee.

At a largely attended meeting of the medical profession of Belfast and district held in the Medical Institute on Feb. 27th, a resolution was passed unanimously expressing regret and surprise that the Committee on Medical Benefits had refused to hear the members selected on Feb. 13th by the local practitioners to give evidence. The meeting again tendered the names of the medical witnesses, and urged that it was essential that they be heard, as representing the various views of medical men in the largest industrial centre of Ireland. The meeting also urged the committee to receive evidence from practitioners in other urban and rural areas of the North of Ireland.

Presentation to Dr. George Sigerson.

The friends and admirers of Dr. George Sigerson met last week to present him with a portrait of himself, by Mr. J. Lavery, as a token of their esteem. Dr. Sigerson has been professor of biology in University College, Dublin, for a great many years, and, apart from his medical work, has gained distinction as a poet and a Gaelic scholar.

March 4th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Association Internationale de Perfectionnement Scientifique et Médical.

THE annual general meeting of this association will take place at the end of May, under the presidency of M. Aristide Briand, President of the Council and Minister of the Interior, when the following medals of honour will be presented: the medal for Social Service (*du Bien Social*) to Her Majesty the Queen of the Belgians; the medal for Scientific Merit to Professor Armand Gautier; and the Association medal to Professor Ehlers, of Copenhagen. Cards of admission can be obtained by writing (enclosing postage for reply) to the President of the A.P.M., 12, Rue François Millet, Paris XV I.

The Degree of Doctor of Medicine.

I have already referred to certain resolutions carried at the meeting of the Superior Council of Public Instruction. The council has also decided to increase the fees. Under the present *régime*, which dates back to 1893, the fees amount to 1395 francs. They are now to be increased by 245 francs to a total of 1640 francs, of which 950 francs will go to the universities and 600 to the Treasury.

The Treatment of Peritoneal Infection by Ether.

M. Souligoux stated at the Société de Chirurgie on Feb. 19th that he used ether habitually in the treatment of infections generally, and that it could be used to special advantage in peritoneal infections. Last July M. Souligoux saw a woman who had been attacked eight days previously with intestinal obstruction, and who presented abrupt signs of peritonitis with fæcal vomiting and fever. M. Souligoux did not see her until some little time after the onset, and as he diagnosed a rectal stenosis he decided to make an artificial anus in the iliac region. On making the incision, however, a perforation of the intestine was found, filling the abdomen with fæcal material. He closed the perforation, which was in the cæcum, washed out the abdomen with ether, and made an artificial anus, and the patient, much to the general surprise, made a perfect recovery. M. Souligoux has since that time always used ether in peritoneal infections.

The Notification of Infectious Diseases.

M. Doizy, the Deputy for the Ardennes and a member of the Parliamentary Commission on Hygiene, expounded recently to the members of the Société de Médecine Publique et de Génie Sanitaire the defects and the qualities of the law for the protection of the public health. He stated that the notifications of transmissible diseases now being made by medical men in accordance with this law amounted to over 100,000 per annum, while at first they numbered only a few thousands, showing a comparative progress in the practice of notification. He concluded by demanding that the head of the family should be made responsible for the notification, and that a post of inspector or departmental director should be established, upon whom should devolve the carrying out of the sanitary laws.

The Morbidity and Mortality of Diphtheria.

At the last meeting of the Société Médicale des Hôpitaux M. D. Martin said that up to the present Paris and France showed the best statistics in regard to diphtheria. He considered it important to demonstrate this fact by figures. For Paris, in the 14 years (1880 to 1893 inclusive) preceding the introduction of antidiphtheritic serum therapy, the mean annual mortality was 1721 deaths, with a maximum of 2244 in 1882, and a minimum of 1266 in 1890. In the 15 years subsequent to the introduction of serum therapy the annual mean was 348 deaths, with a maximum of 736 in 1901 and a minimum of 174 in 1906. In 1896 the morbidity diminished, yet the mortality increased, following

on a statement in 1895 by M. Moizard that in a case of non-diphtheritic angina treated by the serum death had ensued, from which fact both medical men and the public had concluded that the use of the serum was dangerous.

The Disinfection of Crèches.

On the motion of M. Poirier, of Narçay, the Conseil Général de la Seine passed a resolution proposed by M. Ambroise Rendu that the council's grant should be restricted to those crèches in the department which possessed disinfecting apparatus for the children's clothes. It further decreed that, except in the case of crèches unprovided with such disinfecting apparatus, the grant should be withdrawn only after consultation with the Conseil Général.

The Treatment of Amœbic Dysentery.

M. Chauffard recently drew the attention of the Academy of Medicine to the Emetine treatment in amœbic dysentery. M. Chauffard had recently treated by this method with very good results a man who had a dysenteric abscess of the liver communicating with the bronchial tree. At the time of beginning the treatment the hepato-bronchial fistula had existed for five months. From 200 to 250 c.c. of reddish purulent material was being evacuated daily, the rectum was ulcerated, the general condition was very poor, and radioscopic examination showed an extensive opacity at the base of the right lung and merging into the hepatic opacity. Between Dec. 21st and 25th the patient received six injections, each of 4 centigrammes of emetine hydrochloride, which were well borne. The expectoration dropped from 200 c.c. to 150 c.c. on the first day, 60 c.c. on the second, and 45 c.c. on the fourth. On the fifth day the patient expectorated only three times, and since then there had been no expectoration. The temperature also fell below 98·6° F. and there remained. The leucocytosis dropped from 49,000 to 19,800, the polynuclear count from 77 to 63. The rectal ulceration had cicatrised and the base of the right lung had become clear. The patient was thus completely cured and had gained nearly 6 kilogrammes in weight.

March 3rd.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Regulations Concerning the Sale of Food.

NEW regulations concerning the preparation of food in shops and warehouses and its subsequent sale have been lately issued by the Federal Council. The tradesmen chiefly affected are bakers, butchers, grocers, and others engaged in the sale of articles of food. According to the regulations, the places where food is sold or prepared must be clean, dry, and well ventilated. They must not be used as sleeping or sitting rooms, and beds, clothes, linen, and rubbish must not be kept in them. Dogs and cats must not stay in those parts of the premises, and customers must be warned against bringing these animals with them. The floors of places where meat and fruit are sold must admit of being washed. Raw meat carried through the street must be covered with a clean cloth. Persons engaged in the preparation or the sale of food may neither smoke, nor take snuff, nor chew tobacco while at work. Employers are required to provide adequate washing arrangements and a sufficient number of towels. The public is warned against handling meat, fish, bread, pastry, or fruit offered for sale. The police are authorised to enforce observance of the above regulations, and offenders are liable to a fine not exceeding 60 marks (£3).

Medicine and Music.

More than a year ago an orchestra was formed in Berlin consisting of medical men residing in that city, and the circumstance was duly noted in THE LANCET, vol. ii., 1911, p. 263. A further movement in the same direction is now about to be made by the formation of a choral society consisting exclusively of medical men and members of their families. The interest which the profession takes in the matter is shown by the fact that at the inaugural meeting 34 medical men and 37 ladies were enrolled as members. The president is Dr. Singer, a very appropriate name for the occupant of a position in connexion with a choral society.

Jubilee of the Höchster Farbwerke.

The well-known Höchster Farbwerke, one of the largest chemical works in Germany and indeed in Europe, has lately celebrated its jubilee. In a Festschrift published by the firm some interesting particulars are reported with respect to its production of pharmaceutical preparations. The manufacture of such preparations began only in the year 1883, and the first of these substances which was put upon the market—kairine, an antipyretic compound intended to replace quinine—turned out to be a failure. The second one, however, was antipyrine, which has had an immense sale, continuing with little interruption up to the present time. The factory was afterwards engaged in the manufacture of antibacterial remedies, beginning with Professor Koch's tuberculin and Professor Behring's antidiphtheria serum. It deserves to be mentioned that the firm gave financial support to the experiments of Professor Behring when he was unable for want of funds to continue them, and when it was still quite uncertain whether the experiments would lead to a practical result. The synthesis of suprarenin was another of the successes achieved by the Höchst factory. One of its most recent productions is generally known as salvarsan, and was introduced by Professor Ehrlich, whose experiments leading up to its discovery also, I am informed, received financial assistance from the firm.

Congress on Physiotherapy.

An International Congress on Physiotherapy will be held in Berlin from March 26th to the 30th under the patronage of H.R.H. Prince August Wilhelm of Prussia, Doctor of Laws. The presidents are Professor His and Professor Brieger, of Berlin. The principal subject of discussion will be the treatment of disorders of the circulation. The work of the congress will be divided into four sections—namely, (1) Hydro-, Balneo-, and Climatotherapy, introduced by Professor Brieger; (2) Electro- and Radiotherapy, introduced by Professor Oppenheim, Dr. Bickel, and Professor Levy-Dorn; (3) Orthopædy, introduced by Professor Joachimsthal; and (4) Dietetic Treatment, introduced by Professor Strauss. The honorary general secretary is Dr. Immelmann, Lützow-strasse 72. An exhibition of objects of interest will be formed in connexion with the congress. The medical profession of Berlin will entertain the members of the congress at a conversazione. The programme includes a concert and a "cabaret," in which all the performers will be medical men and their wives.

Statistics of Suicide.

The number of suicides in Prussia showed a slight decrease during the year 1911, when 21 cases were registered for each 100,000 of the population, as compared with 22 in 1910. The actual number of persons who took their own lives was 8422, of whom 6394 were men and 2028 were women. The relatively highest proportion of suicides—namely, 35 for each 100,000—occurred in the province of Brandenburg; next came Berlin with 32 per 100,000. The tendency to commit suicide increases with the age, the proportion per 100,000 at various age periods being as follows: between 15 and 25 years, 17; between 20 and 25 years, 25; between 30 and 40 years, 23; between 60 and 70 years, 52; between 70 and 80 years, 61; and over 80 years, 63. The causes of suicide especially in advanced age are not always very clear. About 25 per cent. of suicides are said to be caused by insanity. In 879 cases bodily suffering, in 601 cases alcoholic excess, in 942 cases sorrow, and in 604 cases remorse were the causes assigned. In 1786 cases the cause was absolutely unknown. It is remarkable that certain days of the week showed a greater number of suicides than others. The smallest number of suicides happened on Fridays and Sundays, and the highest number on Mondays and Tuesdays.

Society for Sexual Science.

A new medical society for the study of sexual science has been formed in Berlin, the provisional committee including Professor Eulenburg, Dr. Magnus Hirschfeld, Dr. Koerber, Dr. Iwan Bloch, and others. The objects of the new society are the investigation of the sexual life according to scientific principles and the promotion of interest in these researches among the medical profession. Ordinary membership is reserved to medical men and medical women exclusively; members of other professions are eligible as extraordinary members. At the inaugural meeting Dr. Bloch will read an address on the future work of the society, and Dr. Hirschfeld

will show wax casts of hermaphrodites. In the subsequent meetings papers will be read by Professor Eulenburg on sexual neurasthenia, by Dr. Burchard on sexual infantilismus, by Dr. Adler on the frigidity of women, and by Dr. Rohleder on artificial impregnation.

March 3rd.

NOTES FROM SOUTH AFRICA.

(FROM OUR OWN CORRESPONDENT.)

Cape Medical Council Election.

THE triennial election for the Cape Medical Council has just been held, resulting in the return of Dr. W. Darley Hartley, Dr. John Hewat, M.L.A., Dr. A. J. Gregory, and Dr. D. J. Wood. On all matters of medical policy the candidates were more or less in complete agreement, and the election was decided mainly on personal issues. But a regrettable feature of the election was a series of scurrilous letters that were published locally attacking Dr. A. J. Gregory with a view of detaching votes from his candidature. His return to the Cape Medical Council, on which for many years he was, as medical officer of health for the colony, an *ex-officio* member, is particularly welcome, in view of the fact that that body probably will have to criticise on behalf of the profession, before its term of office expires, not only the Draft Union Medical Bill, but also any proposed public health legislation.

South African Order of Nurses.

During the last few months the committee appointed to promote Lady Gladstone's scheme for inaugurating a South African Order of Nurses in commemoration of the reign of King Edward VII. has been exceptionally busy. A number of meetings have been held and draft regulations prepared. Miss Childe, matron of the Government Hospital, Maseru, Basutoland, has been appointed organising matron, subject to the consent of the Government of Basutoland. The committee has been actively canvassing for funds from the public, and during the past three months street collections have been held in all the principal towns in the Union, but the response has by no means been as generous as might reasonably have been expected, and the total funds available are not likely to exceed £15,000. The fact is that South Africa is very lukewarm with regard to the scheme itself. The main reason for the apathy displayed would seem to be that the public does not realise properly the exact objects of the scheme. The large towns, where the strongest appeal for support has been made, are, on the whole, fairly well equipped with nurses and with hospitals, and their inhabitants have in a sense resented being asked to put their hands in their pockets to assist people less fortunately situated elsewhere. Again, the medical profession is perhaps even more lukewarm than the general public in support of the scheme. The profession did not wish the memorial to take its existing form and would have preferred a sanatorium for consumptives. It even perhaps regards with a certain amount of suspicion the proposal to send nurses out into the country districts. Again, nurses in private practice are generally hostile to the scheme through fear of competition. Had the memorial taken the form of a sanatorium for consumptives, doubtless the movement would have been accorded the warm support of the medical and nursing professions, and had this been secured the response to the appeal would have been infinitely more generous. It is true that a considerable section of the community do not see any necessity for a memorial to be established at all. The Afrikander farmer in particular has been quite apathetic, if not actually hostile, although it is mainly for the benefit of this class that the present scheme is being inaugurated. In most cases this is not due to lack of loyalty, but because the idea of voluntarily subscribing anything except in support of the Church is foreign to this section of the community. This is well exemplified by the memorial fund raised in connexion with the late Jan Hofmeyr, for many years the leading politician in South Africa, which closed recently at £1600, after being open for some two years, and after every effort had been made by the leaders of the Bond to induce the members of that organisation to give freely to the memorial instituted in honour of its founder. The amounts received for the Order of Nurses have been collected almost entirely from the inhabitants of the towns, and, though the response has been generally disappointing, a sufficiently substantial total has been reached to enable at any rate the scheme to be inaugurated in a relatively small way. At the present time the number of trained nurses in South Africa is insufficient for the hospitals of the country and for the requirements of ordinary private practice in the towns. It would, therefore, seem likely that the Committee will find great difficulty in obtaining trained nurses of any sort, and that it will be unable to demand of them that they know the two languages. It will be necessary for the nurses who join the Order to be stationed in small villages, and they will have to carry on their work for the most part on farms amid the primitive and comfortless surroundings of the backveld. It is probable that nurses, who have hitherto been in a position to pick and choose their work to a large extent owing to the demand exceeding the supply, will not be willing to join the Order unless they are offered high salaries. The shortage of nurses is indeed a serious problem to be faced by everyone. The number of institutions is rapidly expanding, whilst the medical councils have in recent years struck off the list a number of training schools altogether, and in certain of the others extended the curriculum to such an extent that it is practically impossible for the managers to recruit probationers. The prospects of the scheme at the moment do not appear rosy.

South African Defence Act.

A most extraordinary circular has recently been issued to resident magistrates by the Department of Defence for the information of the medical profession. It furnishes generally the requirements of the department in the matter of the medical examination of recruits for the Active Citizen Force, and requests medical men, who are willing so to do, to give in their names and the addresses of their consulting-rooms at which recruits may attend and secure medical certificates. For each examination a fee of 5*s.* only may be claimed. The whole circular is regarded as somewhat unfortunately worded. In the first place, it is evident that a thorough physical examination of every recruit is expected. If the examination is to be as thorough as the certificate indicates, it will take time and care on the part of an examining practitioner, and any fee of less than half a guinea would be ridiculous. The circular states that "medical officers who wish to do so may claim five shillings for each certificate." As thus phrased it clearly places the onus of demanding even the fee of 5*s.* upon the practitioner. If he wishes to do so he may claim the fee, the inference being that the Government hopes, but hardly expects, the practitioner to be patriotic enough to do the work for nothing at all. The real inducement, however, to the profession to volunteer appears in another clause of the circular, which reads as follows:—

> Later on the Government will have occasion to invite medical practitioners whose names have been placed on this roll to undertake other medical services, both for peace training and in time of war, in connexion with the citizen forces raised in their districts. Incidentally, no doubt, it may be possible so to arrange that in distributing the ordinary Government medical work which medical practitioners are from time to time called upon to perform, preference will be given to those who have volunteered their services as citizen force medical officers.

This is very objectionable, and at the least can only excite suspicion in the minds of practitioners that all is not as it should be. It is understood that the Government does not intend to organise any medical corps in connexion with the defence forces of the Union, at any rate within the next year, but expects to be able to muddle along with the aid of private practitioners. Thus the existing volunteer medical units will disappear and are not to be incorporated in the new defence force, as is the case with combatant corps. This seems to be regrettable, for new medical corps will not be easy to create, while the experience gained in South African wars has shown the necessity of an efficient organisation being created in advance. It is to be hoped that the existing volunteer corps may yet be saved.

Jan. 7th.

LONDON HOSPITAL MEDICAL COLLEGE.—The second of two lectures in clinical surgery will be delivered by Sir Frederic Eve on Tuesday, March 11th, at 1 P.M., in the clinical theatre of the hospital. The subject is Malignant Tumours of the Long Bones, their Pathology, Symptoms, and Treatment. The attendance of members of the medical profession is invited.

Obituary.

PHILIP HAIR, M.D. EDIN.,

PHYSICIAN TO THE CARLISLE DISPENSARY.

Dr. Philip Hair, the oldest medical practitioner in Carlisle, died somewhat suddenly last month, in his seventy-second year of age. He was the second son of James Hair, of Carlisle, and he received his medical education at Edinburgh, where he graduated M.B. and C.M. in 1866, obtaining the M.D. degree two years later, and being awarded the gold medal for his thesis on the Muscular Fibres of the Alligator. This thesis was published in the *Journal of Anatomy and Physiology*. For a time he was assistant demonstrator of anatomy in the University to Professor Goodsir and Professor (now Sir) William Turner, subsequently going to Paris, where he added to his professional knowledge and acquired great fluency in the French language. In this connexion it is of interest that when a decade or so ago Dr. Blanc and Dr. Forrestier of Aix-les-Bains visited Carlisle as the guests of the late Dr. Ware, Bishop of Barrow-in-Furness, and attended a meeting of the local medical profession, Dr. Hair returned thanks to the visitors in an eloquent speech in their own tongue. After his return from Paris Dr. Hair was elected surgeon to the Carlisle Dispensary in 1873, and later in 1898 became one of the physicians, a position which he held at the time of his death. In this institution he took a keen and active interest for more than 40 years.

Dr. Hair played a prominent part in two leading law cases. Some years ago he brought an action against the corporation of Carlisle with regard to the drainage of his house, the case being taken to the Court of Appeal and decided in his favour, and Hair *v.* Hill was for many years a precedent in such cases, though the decision was later upset by another similar case. An action which he brought against the North-Eastern Railway Company resulted in defining the meaning of the law as to the liability of railway companies for damage caused by sparks from engines. Dr. Hair leaves a widow and a daughter.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Baudouin, formerly inspecting physician of the French Military Medical Service.—Dr. Manuel Araujo, President of the Republic of Salvador.—Dr. Giovanni Giudice, *agrégé* of the Turin Medical Faculty.—Dr. Rudolf Frank, *privat-docent* of surgery in the University of Vienna.—Dr. A. Isaac, formerly deputy for the Guadeloupe.—Dr. George F. Hanson, formerly professor of materia medica and therapeutics in Cooper Medical College, San Francisco.—Dr. Orville Horrwitz, formerly professor of genito-urinary diseases in Jefferson Medical College, Philadelphia.—Dr. James P. Tuttle, professor of diseases of the rectum in New York polyclinic medical school and hospital.—Dr. Henry Hervieux, professor of medical pathology in Laval University, Montreal.—Dr. W. J. van Stockum, senior medical officer of the Coolsingel Hospital, Holland.—Dr. Martin Gastesi, of the Dámaso Larrañaga Hospital, Montevideo.—Dr. Jacino Sicardi, a distinguished ophthalmologist and chief of the eye clinic of the San Roque Hospital, Buenos Aires. He had been assistant to Professor Reymond in Turin.—Dr. Ernest Palmer, professor of clinical gynæcology in Long Island College Hospital, Brooklyn.—Dr. Robert Murray, formerly director-general of the United States Military Medical Service.—Dr. Dhourdin, formerly professor of anatomy in Amiens.—Dr. Clavel, formerly inspecting medical officer of the French colonial troops.—Dr. L. Lantschner, formerly *privat-docent* of surgery in the University of Innsbruck.—Dr. J. Menno Huizinga, medical officer of health, Amsterdam, aged 63.—Dr. Arnold L. G. Heller, professor of general pathology and pathological anatomy in the University of Kiel. He had been a pupil of Rokitansky in Vienna, and afterwards lectured on pathology in Erlangen, whence he was invited to Kiel in 1872, and held the chair there until his death. He published researches on the parasites of the liver and intestines, on the cause of tuberculosis, and many other pathological questions.—Dr. H. Litzmann, Medical Privy Councillor, of Altona.—Dr. F. W. Benicke, Medical Privy Councillor, of Berlin.

THE NATIONAL INSURANCE ACT.

THE WORKING OF THE ACT.

THE time that has elapsed since the coming into force of the National Insurance Act does not allow of many definite statements to be made about its working in general and throughout the country, although many indications are fairly clear. But it is certain that one set of circumstances may press hardly in one locality and have little significance in another, while the character of the work and the *personnel* of the patients (to mention two very obvious things) will differ in different parts of the country and thus will affect the administration of medical benefit. We begin this week a series of articles by one of our staff, who has begun a course of personal investigation into the conditions under which medical benefit is being provided. When the time comes in which we have to press for amendments it will be of great value to have first-hand evidence upon which to act.

ADMINISTRATION OF SANATORIUM BENEFIT.

THE following is the text of the Memorandum on the Administration of Sanatorium Benefit,[1] signed by Mr. C. F. G. Masterman, and presented to both Houses of Parliament.

1. "Sanatorium benefit" consists of treatment given at the cost of the National Health Insurance Fund to persons suffering from tuberculosis or such other diseases as the Local Government Board, with the approval of the Treasury, may appoint. For the time being the benefit is confined to the treatment of tuberculosis.

2. The first duty of an Insurance Committee with respect to sanatorium benefit is to make provision for the treatment of cases of tuberculosis occurring among insured persons, for the administration of whose benefit they are responsible. They may, if they think fit, extend treatment to the dependents of insured persons or to any class of such dependents.

3. Treatment for purposes of sanatorium benefit may be given: (*a*) in sanatoria, hospitals, or other residential institutions; (*b*) at tuberculosis dispensaries or other non-residential institutions; (*c*) in the patient's home.

4. In administering the benefit Insurance Committees are not empowered by the Act themselves to provide institutions. Their duty is to make arrangements with suitable persons or local authorities for this purpose. All such arrangements are required by the Act to be made to the satisfaction of the Commissioners. In the case of those who require treatment in institutions the arrangements must be made with persons or local authorities (other than Poor-law authorities) having the management of sanatoria or other institutions approved by the Local Government Board. Where treatment is required otherwise than in institutions, arrangements must be made for it to be given by persons or local authorities (other than Poor-law authorities) undertaking such treatment in a manner approved by the Local Government Board.

5. Recognising that, notwithstanding what had already been effected by local authorities and voluntary effort, the available means of organised expert treatment in the form of sanatoria, hospital accommodation or dispensaries was far short of the needs of the population, Parliament provided under the Finance Act, 1911, a capital sum of £1,500,000 for the United Kingdom to aid the provision of institutions for the purpose. Having regard to the capital sum thus provided and in view of the early operation of the Insurance Act, it became advisable to consider the whole question of tuberculosis in all its bearings, and the Government accordingly appointed, in February, 1912, a Departmental Committee "to report at an early date upon the considerations of general policy in respect of the problem of tuberculosis in the United Kingdom, in its preventive, curative, and other aspects, which should guide the Government and local bodies in making or aiding provision for the treatment of tuberculosis in sanatoria or other institutions or otherwise."

6. In view of the fact that the provisions of the Insurance Act relating to sanatorium benefit came into operation on July 15th, 1912, the Committee issued in April an interim report in which they laid down, for the assistance of all concerned in the administration of measures dealing with tuberculosis, whether among the insured or non-insured sections of the population, the broad lines of the scheme which they recommended for adoption in every area, and the recommendations of the Committee were concurred in, generally, by the Local Government Board and the Insurance Commissioners.

7. The Departmental Committee recognised that the provision for dealing with tuberculosis when occurring among insured persons could not satisfactorily be considered as a separate problem. They made it their object "to take into consideration the existing machinery and funds available, and to indicate the lines upon which, in their view, a national and comprehensive scheme for combating tuberculosis in all its forms may be established and developed," and they "endeavoured to devise a scheme in which may be united or correlated the activities of the various bodies, authorities, and persons concerned, so as to ensure that adequate provision for the prevention and treatment of the disease should be made available on a systematic basis, as far as possible uniform in character, but not necessarily identical in detail, throughout the United Kingdom."

8. For the proper development of satisfactory schemes of administration in each area on the lines laid down in the report of the Departmental Committee, time was required in order that Insurance Committees, the County and County Borough Councils, and the other local authorities and bodies concerned might consider the matter and consult together. Time was also required, obviously, for the erection

[1] Published by H.M. Stationery Office, and obtainable from Wyman and Sons, Limited, Fetter-lane, E.C. Price 1d.

of buildings and for the organisation of institutions, including sanatoria, hospitals, and dispensaries. Although in certain administrative areas an organisation (including adequately trained officers) for this purpose had already been created or was in an advanced stage of preparation, in most districts this was not the case. Moreover, it was inevitable that there would be some delay before a sufficient number of medical practitioners possessing the requisite qualifications for the permanent post of tuberculosis officer could be available.

9. It was, therefore, necessary in most districts for arrangements of a purely temporary and provisional kind to be made in order that such forms of treatment as could be given through existing agencies might be made available for the benefit of insured persons at the earliest practicable date after July 15th.

10. *England.*—Except in a few of the larger county boroughs, where officers had already been appointed and dispensaries equipped under the Public Health Acts, the Insurance Committees generally secured the services of the medical officer of health as their medical adviser to assist them in dealing with applications for sanatorium benefit. An applicant for the benefit, on furnishing satisfactory evidence that he was an insured person, was instructed to obtain a medical report on his case from a private practitioner, which was thereupon referred to the medical adviser for his opinion. It was the duty of the medical adviser to attend the meetings of the Committee, and on his advice the Committee recommended the case for benefit in the form of institutional or home treatment, according to the requirements of the case and the arrangements made by them. For home treatment Committees made arrangements collectively or individually with the medical practitioners in their areas, and for institutional treatment existing sanatoria were utilised by arrangement. In many cases, also, isolation hospitals, which had frequently a large amount of vacant accommodation, were, with the approval of the Local Government Board, adapted for the treatment of tuberculosis.

While immediate treatment was obtained by these provisional arrangements, County and County Borough Councils, at the instance of the Local Government Board, took into consideration the framing of general schemes for the treatment of tuberculosis for their areas, and in some instances such schemes had been brought wholly or partially into operation before the close of the half year.

11. *Scotland.*—In Scotland similar procedure was adopted. The local medical officer of health has usually acted as medical adviser to the Committee and has advised the Committee as to the appropriate form of treatment on the basis of reports made by the private practitioner, supplemented where possible by interview with the patient. Scotland was in a favourable position as regards institutional treatment, having already in existence 76 sanatoria approved by the Local Government Board, with accommodation for about 2300 patients, and Insurance Committees found no difficulty in making arrangements for treatment at rates ranging from 25*s.* to 30*s.* a week.

Dispensary treatment has been available in the larger towns, as, for example, Glasgow, Edinburgh, Dundee, Greenock, and Inverness. In some cases a lump sum payment for the use of the dispensary by insured persons recommended for attendance has been made by the Insurance Committee to the authority which manages the dispensary; in others a weekly or other periodical charge per insured person in attendance has been paid—in the case of Greenock Insurance Committee, for example, the amount is set at 30*s.* per patient per annum.

As regards domiciliary treatment, arrangements have been made by Insurance Committees with local practitioners, usually at an agreed inclusive charge per month, to give medical attendance and treatment to persons recommended for treatment at home, together with such medicines and medical comforts at the charge of the Committee as may be prescribed by the medical attendant (in consultation, if need be, with the medical adviser). Where shelters have been suggested as adjuncts to treatment, they have been hired by Committees from local authorities or other bodies or persons possessing them at a charge varying from 6*d.* to 1*s.* 6*d.* per week. In a number of cases arrangements for the administration of sanatorium benefit have been made through the local public health authority.

12. *Ireland.*—The procedure adopted by Insurance Committees in Ireland was similar to that adopted in England and Scotland. The medical officers of health have usually acted provisionally as medical adviser to the Committees, pending the appointment of tuberculosis officers. Medical men with qualifications for the latter posts have now, however, in many cases been appointed. Nearly all the Committees were able satisfactorily to arrange for sanatorium treatment. A large proportion of accommodation used has been provided through the Women's National Health Association.

13. *Wales.*—In Wales the National King Edward VII. Memorial Association, with funds amounting to a quarter of a million, was in a position at the outset to organise an effective scheme for dealing with tuberculosis. The Association appointed 13 tuberculosis officers for service in all parts of the principality and organised dispensaries for the treatment of all sections of the population, insured as well as non-insured. The Association also secured the entire use of two sanatoria, and leased accommodation in others, and at the same time secured the provision of beds for advanced cases in isolation hospitals. Insurance Committees generally made arrangements with the Association for the services of its officials and for the accommodation for insured persons.

Figures are appended to the Memorandum illustrating the operation of sanatorium benefit for the first four months up to Nov. 20th, 1912. In this period 3773 persons received sanatorium benefit. Of this number 2172 were treated in residential institutions, 587 at dispensaries, and 1014 at home under the care of private practitioners, the total cost being £37,640. Later figures, obtained since Nov. 20th, bring the total number of insured persons and their dependents who have received under the Insurance Act treatment in residential institutions in the period ending Feb. 4th, 1913, up to 4753.

A COMMITTEE ON DRUGS.

A committee has been appointed, consisting of Mr. J. Smith Whitaker (chairman), Mr. Walter Davies, Mr. J. C. Ledlie, Mr. Claud Schuster, and Dr. Lauriston E. Shaw, to inquire and report whether, having regard to the interests of insured persons in obtaining an efficient and rapid supply of drugs, medicines, and appliances, and to the conditions under which those articles were supplied before the passing of the National Insurance Act, 1911, any alteration is necessary in the conditions laid down by Section 15 (5) (iii.) of the National Insurance Act in respect of the matter. All communications in regard to the Committee should be addressed to the secretary, Mr. James Rae, at the National Health Insurance Commission (England), Buckingham-gate, London, S.W.

MIDDLESEX INSURANCE COMMITTEE.

AT its monthly meeting on March 3rd the Middlesex Insurance Committee decided to approve of a basis of payment to medical men on the panel. The following scale of charges was approved:—

	s.	*d.*
1. Attendance on patients at practitioners' residence or surgery	1	0
2. Visit to patient's residence	2	0
3. Special visit	2	6
4. Night visit	2	6
5. Surgical operations	10	6
6. Administration of general anæsthetic	10	6
7. Setting of fracture	10	6
8. Dislocation	10	6

It was explained that these figures were units, on the basis of which payments to medical men from a pool would be computed.

Some members expressed the opinion that the charge for night visits was not sufficient, and in reply the chairman of the committee, Mr. W. S. Glyn Jones, M.P., said that the scale was one suggested by the Ealing Division of the British Medical Association for a public medical service.

Mr. E. W. Lowry, of Brentford, moved a resolution in favour of adopting a wider interpretation of Clause 15 (3) of the Act, as to insured persons making their own arrangements, urging that a wide use of contracting out would be of great advantage to the Committee, the medical profession, and the insured. The motion, however, was lost by a large majority, only five voting in favour.

A BUSINESS INSURANCE AGAINST SICKNESS.

THE very marrow of the dissension that has been aroused between the medical profession as a whole and the Government over the question of the Insurance Act lies in the interference of the Act with the freedom of the relations between doctor and patient. The profession, for the most part, claims that the relation of doctor and patient should be individualistic if the best interests of the patient, of the public, of the doctor, and of medical science are to be conserved, and that any attempt to control those relations, must inevitably impair their effectiveness. The Government, on the other hand, insists that it would be impossible to organise any insurance scheme for the provision of medical attendance on the masses without some measure of control over the medical men employed, and over their relations with their prospective patients, and it supports its position by reference to the necessity for public control when the expenditure of public money is involved.

We have recently received from a Manchester insurance company a copy of its family medical policy for insuring families against liability for the cost of medical attendance, medicine, and surgical operations, which presents a scheme that, had it been adopted by the Government for the Act, might have in many respects obviated this troublesome clash of interests. Briefly the scheme is this. For each member of the family for whom a policy is taken out the sum of 2*d.* a week, or 7*s.* 6*d.* per annum in advance, secures the payment of all bills for medical attendance during the twelvemonth, including the cost of medicines supplied, whether by medical man or chemist, and surgical operations not exceeding 5 guineas, up to a total cost of £25, the first four visits of the year to each insured person being excluded. The fee allowed for each visit is 2*s.* 6*d.*, or 200 visits in all. Double fees for night visits between 9 P.M. and 9 A.M. are allowed, and provision is made for higher fees in the event of the insured being medically attended while temporarily absent from home. Under this plan any medical man in whom the insured has confidence may be called in, subject to the limitation that the fees paid to him shall not exceed the rate of 2*s.* 6*d.*

per visit, exclusive of medicine supplied. It might happen, however, that the family doctor's fee is more than 2*s.* 6*d.* a visit. In such a case either (1) the insured would himself be liable in the ordinary way for the difference between the stipulated fee of 2*s.* 6*d.* and that actually charged for each visit; or (2) a higher premium could be arranged to cover the liability at a higher fee per visit. When the medical attendance is complete the practitioner renders his detailed account in the ordinary way to the patient, who, after checking it—which he would naturally do, so that what is practically his deposit account of £25 with the insurance company created by his policy shall not be unduly depleted—sends it to the company. The company at once settles the account, either direct with the practitioner or by sending to the insured a crossed cheque drawn in the medical attendant's favour. The insured's medical expenditure is thus limited to the cost of the first four visits (viz., 10*s.*), and the medicines supplied therewith, in any one year, plus the small weekly or annual premium. He has really the doctor of his choice, and is not limited therein by any panel; he is subjected to no vexatious restrictions, but proceeds exactly as he has always done, calling in the doctor in the ordinary way when he wants him, falling back on any other doctor if his own be not available, and changing his doctor, as he does now, without let or hindrance when he pleases and without needing anyone's consent. The doctor, for his part, enters into no other arrangements beyond those of ordinary practice, but he obtains immediate settlement for his fees for all visits after the first four, for surgical operations (up to 5 guineas), and for medicines supplied. His bad debts are thus reduced, the capital value of his practice should be increased, there is absolutely no interference of any kind between him and his patients, no departure is made from his ordinary methods, and no control or regulation exercised by any external authority. He is a free worker, as hitherto, but with this advantage—that he can depend on his fees being promptly settled in the case of all those of his patients who are thus insured.

The Insurance Act being compulsory on all workers of a certain class—who, indeed, are on the whole the least liable in the family to sickness—this provision is primarily intended not for them, but for the unprotected members of their families, men, women, and children, between the ages of 1 and 50 years. But some of the compulsorily insured who, in order to retain the services of the medical man of their choice, if he does not happen to be on the panel, must consent to forego the benefit of their compulsory premiums and meet out of their own resources the fees of their chosen medical attendant, may be glad to avail themselves of this opportunity of lessening their burden. This new departure in insurance, we are told, has been most cordially received by a large number of medical men in industrial districts, especially in the North of England.

The Insurance Committee for the County of London has removed from 3, Pall Mall East, London, S.W., to 5, Chancery-lane, London, W.C.

THE MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (HAMPSTEAD AND NORTHWOOD).—The annual court of governors of this charity, the anxious position of which was described in THE LANCET last week, will be held at 7, Fitzroy-square, London, W., on Wednesday next, March 12th, at 4 P.M., Lord Zetland, the president, in the chair. The committee will present a report of its proceedings and of all receipts and disbursements relating to the hospital during the past year and of the general state of the hospital. The following motion will be submitted for the approval of the governors:—

That the committee of management of this institution be instructed to submit the hospital, situated at Hampstead, for sale by public auction or otherwise, and to take such steps as counsel may advise for vesting such hospital in the purchaser.

Dr. F. W. Tunnicliffe, chairman of the medical board, will bring forward the following amendment:—

Considering that the entire medical and surgical staff has expressed the considered opinion that on medical grounds it is not practicable to conduct a chest hospital in the true sense of the term at Northwood, this meeting directs that the further consideration of the chairman's resolution be deferred until March, 1914, and that the committee of management be called upon to exercise, if necessary, the powers conferred upon them at the last meeting of governors to separate the two institutions with the view to "a further and better perpetuation of the hospitals at Hampstead and Northwood."

Medical News.

UNIVERSITY OF CAMBRIDGE.—The degree of M.D. has been conferred upon Mr. W. R. Honeyburne, Peterhouse.

UNIVERSITY OF OXFORD.—Mr P. E. H. Adams, B.M., F.R.C.S. Eng., has been elected to the Margaret Ogilvie Readership in Ophthalmology.

UNIVERSITY OF SHEFFIELD.—The Council at its last meeting appointed Miss Sophia M. V. Witts, M.D. Lond., to the newly instituted post of lady tutor in anatomy

UNIVERSITY OF LONDON: KING'S COLLEGE.—The following appointments have been made in the Department of Public Health:—Dr. E. W. Routley, medical officer of health, Aldershot, as lecturer in sanitary law and administration; Colonel W. G. King, C.I.E., M.D., late Sanitary Commissioner in the Madras Presidency, as lecturer in applied hygiene in the tropics; and Dr. W. F. Roach, as lecturer on school hygiene for medical officers. The laboratories of the College occupy part of the premises of the Charing Cross Hospital Medical School, 62, Chandos-street, W.C.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. R. Cassirer, *privat-docent* of neurology, has been granted the title of Professor.—*Cagliari:* Dr. Carlo Ceni, extraordinary professor of neurology and psychiatry, has been promoted to Ordinary Professor.—*Catania:* Dr. Pietro Stancanelli, of Naples, has been recognised as *privat-docent* of Dermatology and Syphiligraphy.—*Florence:* Dr. Giuseppe Pasetti has been recognised as *privat-docent* of Ophthalmology.—*Padua:* Dr. Mario Fontana, of Rome, has been recognised as *privat-docent* of Physio-therapeutics.—*Palermo:* Dr. Erasmo Scimeni, of Messina, has been appointed Professor of Clinical Ophthalmology.—*Philadelphia Medico-Chirurgical College:* Dr. John J. Gilbride has been appointed Lecturer on Anatomy.

CENSUS OF HOMELESS PERSONS IN LONDON.—The census of homeless persons, taken every year in London on a night in February, showed this year a total of 649, a figure less by 554 than the total for 1912, and the lowest recorded number. This was accompanied by a fall of 973 in the number of inmates of common lodging-houses. The Public Health Committee, reporting to the London County Council on the matter on March 4th, expressed the opinion that this remarkable result pointed to the fact that, in addition to changes in the administration of the Poor-law, there were other unrecognised forces exercising a determining influence on these sections of the community. The committee noted that although the Metropolitan Casual Paupers Order, 1911, had brought about a considerable reduction in the number of persons resorting to casual wards in London, there had not been any increase in the number of vagrants in casual wards in areas adjoining the County of London.

ROYAL SUSSEX COUNTY HOSPITAL.—The effect of the Insurance Act was commented upon at the annual meeting on Feb. 26th of the Royal Sussex County Hospital at Brighton. It was stated that the weekly average of out-patients and casualties since Jan. 15th, 1913 (the date of the operation of the Insurance Act), had dropped by about one-third, but the number of in-patients was at exactly the same figure as in the corresponding weeks of last year. There was still misconception of what the medical benefits of the Insurance Act would do, but, said Mr. C. Scrase Dickins, the President, in the midlands and in the north employers of labour were recognising that it would not do to cease their contributions to voluntary hospitals. On the subject of the Insurance Act the following note from the annual report is to the point: "In spite of the adverse circumstances, the amount received in subscriptions is more than in 1911. The feared extinction of the voluntary hospitals is not come yet, and there is no indication that the people of Sussex desire to see anything of the kind take place. It is to be hoped that both employers and employed begin to realise more fully that, except in the case of tuberculosis, the Insurance Act provides no substitute for hospital in-patient treatment, and

that the classes which needed it before will continue to need it now. Time will show whether there will be a sufficient reduction in the number of out-patients to make possible any alteration in the existing arrangements. It was never expected that the call on the beds would diminish, and the experience of last year does not indicate that it is likely to do so." The total number of in-patients during the year was 2709, as compared with 2690 in 1911, and out-patients 10,568, as against 10,340.

CENTRAL MIDWIVES BOARD.—A special meeting of the Central Midwives Board was held on Feb. 27th at Caxton House, Westminster, Sir Francis H. Champneys being in the chair. The Board considered the following charges, amongst others, against the midwives whose names are given below, and ordered them to be struck off the roll:—Mary Ann Harman, that being in attendance as a midwife at a confinement, the placenta and membranes not having been completely expelled two hours after the birth of the child, she did not hand to the husband or the nearest relative or friend present the form of sending for medical help, properly filled up and signed by her, in order that this might be immediately forwarded to the medical practitioner, as required by Rule E. 20 (3), and she failed to take the pulse or temperature of the patient, as required by Rule E. 13. Catherine Hickman, that being in attendance as a midwife at a confinement, the child suffering from inflammation of, and discharge from, the eyes, she did not explain that the case was one in which the attendance of a registered medical practitioner was required, nor did she hand to the husband or the nearest relative or friend present the form of sending for medical help, properly filled up and signed by her, in order that this might be immediately forwarded to the medical practitioner, as required by Rule E. 20 (5). Clara Jane Lander, that she was not scrupulously clean, as required by Rule E. 1; that she did not take with her to a confinement, nor did she possess, the appliances and antiseptics required by Rule E. 2; and that she did not keep a register of cases, as required by Rule E. 23. Louisa Lower, that being in attendance as a midwife at a confinement she did not provide for the comfort or cleanliness of the patient, as required by Rule E. 11, and she falsely stated to the registered medical practitioner in attendance that she had washed the patient when in fact she had not done so. Ruth Skelton, that she persistently neglected to comply with the rules of the Central Midwives Board, and that she did not keep her register of cases as required by Rule E. 23. Florence Ann Smith, that she was guilty of misconduct in that she fraudulently and with intent to deceive made use of a fictitious document purporting to be the copy of a testimonial signed by the matron of the Monmouthshire Training Centre, favourable to her application for appointment to the staff of King Edward VII. Hospital, Windsor, well knowing the same to be false, and with intent to induce the members of the committee of such hospital to bestow upon her the said appointment. Amy Stacey, that being in attendance as a midwife at a confinement she did not adopt the antiseptic precautions required by Rules E. 3 and 7; she neglected to take the temperature of the patient at any time, being unable to make use of a clinical thermometer, and the case being one of stillbirth, and no registered medical practitioner being in attendance, she failed to notify the local supervising authority, as required by Rule E. 21 (1). Christina Helen Sutherland, that being in attendance as a midwife at a confinement, the child suffering from discharge from the eyes, she did not explain that the case was one in which the attendance of a registered medical practitioner was required, nor did she hand to the husband or the nearest relative or friend present the form of sending for medical help, properly filled up and signed by her, in order that this might be immediately forwarded to the medical practitioner, as required by Rule E. 20 (5), and that she treated the child's eyes with chloride of mercury and silver nitrate, but made no entry of their administration in her register of cases, as required by Rule E. 18. Sarah Ann Ward, that being in attendance as a midwife at a confinement she did not wear a clean dress of washable material, as required by Rule E. 1; she did not wash or scrub her own hands or forearms before touching the patient's generative organs, as required by Rule E. 3; and she did not wash or swab the patient prior to making the first internal examination, as required by Rule E. 7. The following midwives were censured after charges against them had been considered: Sarah Harris and Flora Wright.

Dr. Louis Vintras, physician to the French Hospital in London, has been made a Knight Grand Cross of the Order of the Knights Hospitallers of St. John in Spain.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC.—The annual general meeting of this institution will be held at 22, Chenies-street, London, W.C., on Friday, March 14th, at 5.15 P.M., when the chair will be taken by Sir W. J. Collins, F.R.C.S.

THE HUNTERIAN SOCIETY.—The annual medal has been awarded to Dr. A. Graham-Stewart for an essay on "Raised Arterial Pressure and Arterio-sclerosis." Dr. Graham-Stewart will read a paper, founded upon the essay, at the annual meeting of the society on April 23rd.

HEALTH OF PAIGNTON (DEVON): UNVACCINATED CHILDREN.—The medical officer of health of Paignton in his annual report for 1912 states that the death-rate was 13·4 per 1000 and the birth-rate 16·7 per 1000. He urges the importance of erecting, in accordance with Local Government Board requirements, a special block of buildings for the isolation of small-pox cases, as 70 per cent. of the children born in Paignton are unvaccinated.

DAWLISH (DEVON) COTTAGE HOSPITAL.—At the annual meeting of the subscribers to the Dawlish Cottage Hospital, the medical report and the financial statement were satisfactory. Mrs. Nosworthy has recently completely refurnished the hospital at a cost of £200, and the late Mr. E. Bayldon bequeathed £100 for its heating apparatus. It was unanimously decided that insured persons with no dependents shall be received as in-patients only on payment of three-fourths of their sickness benefit.

SAMARITAN FREE HOSPITAL FOR WOMEN.—The annual general meeting of governors will be held in the board room of this hospital in Marylebone-road, London, N.W., on Tuesday next, March 11th, at 5 P.M., when among the business to be transacted will be the following amendment of Rule XII., proposed by Dr. F. J. McCann and seconded by Mr. G. F. Darwall Smith:—

That Rule XII. shall read:—The committee of management shall consist of (1) the governors elected at the annual general meeting, and (2) the following *ex-officio* members—viz., the president, the treasurer, two members of the active staff elected annually by the medical committee, and not more than four members of the consulting staff. Three members shall form a quorum.

TUBERCULOSIS TREATMENT IN MIDDLESEX.—The Local Government Board has signified its approval of a scheme prepared by the Middlesex county council for the treatment of tuberculosis. The public health committee reported to the council on Feb. 27th that the sum available for general tuberculosis treatment having been reduced in consequence of the decision of the Government to earmark 6*d*. per insured person in respect of remuneration to general practitioners for domiciliary treatment, only 350 instead of 450 beds could be provided in hospitals and sanatoriums. The council should let it be clearly understood that no further beds would be provided until an increased grant from the Exchequer was assured. The council approved this report and authorised the public health committee to appoint five tuberculosis officers at a salary of £500 a year each, and two assistant tuberculosis officers at £300 a year each, and to make arrangements for obtaining premises in various parts of the county suitable for dispensaries.

BOOKS, ETC., RECEIVED.

ALLEN, GEORGE, AND COMPANY, LIMITED, London.

The Petrology of the Sedimentary Rocks. By F. H. Hatch, Ph.D. Mem. Inst. Civil Engineers, Vice-President of the Institute of Mining and Metallurgy; and R. H. Rastall, M.A., Demonstrator of Geology in the University of Cambridge. Price 7*s*. 6*d*. net.

ARNOLD, EDWARD, London.

Lectures on Diseases of Children. By Robert Hutchison, M.D., F.R.C.P., Physician to the London Hospital and Physician, with Charge of Out-patients, to the Hospital for Sick Children, Great Ormond-street. Third edition. Price 10*s*. 6*d*. net.

BAILLIÈRE, TINDALL, AND COX, London.

Pathological Inebriety, its Causation, and Treatment. By J. W. Astley Cooper, Medical Superintendent and Licensee of Ghyll-wood Sanatorium, near Cockermouth, Cumberland. With Introduction by Sir David Ferrier, M.D., F.R.S. Price 3*s*. 6*d*. net.

BALE (JOHN), SONS, AND DANIELSSON, LIMITED, London.

Annual Report on the Results of Tuberculosis Research, 1911. By Dr. F. Köhler, Head Physician of the Holsterhausen Sanatorium, near Werden on the Ruhr. Reprint from the Clinical Year-Book. Edited by Dr. Naumann and Dr. M. Kirchner. Twenty-sixth Volume. Translated by Ronald E. S. Krohn, M.D. Lond. Price 7s. 6d. net.

CASSELL AND COMPANY, LIMITED, London, New York, Toronto, and Melbourne.

Education and Race-Regeneration. By the Rt. Hon. Sir John Eldon Gorst. Price 6d. net.

CLARENDON PRESS, Oxford.

On Aristotle as a Biologist, with a Prooemion on Herbert Spencer. Being the Herbert Spencer Lecture delivered before the University of Oxford on February 14th, 1913. By D'Arcy Wentworth Thompson. Price 1s. net.

CONSTABLE AND CO., LIMITED, 10, Orange-street, Leicester-square, London, W.C.

Minutes of the General Medical Council and of its Various Committees for the Year 1912, with Twelve Appendices. Vol. XLIX. Price not stated.

DORNAN, WILLIAM J., Philadelphia.

Transactions of the American Surgical Association. Volume the Thirtieth. Edited by Archibald MacLaren, M.D., Recorder of the Association. Price not stated.

FISCHER, GUSTAV, Jena.

Medizinisch-biologische Familienforschungen innerhalb eines 2232 köpfigen Bauerngeschlechtes in Schweden (Provinz Blekinge). Von Dr. H. Lundborg, Dozent für Psychiatrie und Neurologie an der Universität Uppsala. Mit einer Vorrede von Professor Max von Gruber in München. (Gedruckt mit Subvention des schwedischen Staates (durch das Kultusministerium), der schwedischen Gesellschaft für Rassenhygiene und des Regnellschen Fonds an der Universität Uppsala). Text und atlas. Price M.120.

GRATTAN, H. H. G., 17, The Borough, London Bridge, London, S.E.

Pharmacy and Materia Medica for Nurses. By Horace Finnemore, B.Sc. Lond., F.I.C., Pharmaceutical Chemist, Pharmacist to, and Teacher of Pharmacy at, Guy's Hospital. Price 2s. 6d. net; post free, 2s. 9d. net.

GRIFFIN, CHARLES, AND CO., LIMITED, Exeter-street, Strand, London, W.C.

The Year-Book of the Scientific and Learned Societies of Great Britain and Ireland. Twenty-ninth Annual Issue. Price 7s. 6d.

HODGES, FIGGIS, AND CO., LIMITED, Dublin. SIMPKIN, MARSHALL, AND CO., LIMITED, London.

Reminiscences of Sir Charles A. Cameron, C.B. Price 3s. 6d. net.

KING, P. S., AND SON, Orchard House, Westminster, London, S.W.

A Sympathetic Boyhood. The Public Schools and Social Questions. By Alex. Devine, Headmaster of Clayesmore School, Pangbourne. Price 2d.

LAYTON, CHARLES AND EDWIN, 56, Farringdon-street, London, E.C.

Handy Newspaper List. 1913. Price 6d.
The Insurance Register (Life). Price 1s.

LEWIS, H. K., London.

The Bacterial Diseases of Respiration, and Vaccines in their Treatment. By R. W. Allen, M.D., B.S. Lond. Price 6s. net.

LONGMANS, GREEN AND CO., London, New York, Bombay, and Calcutta.

The Chemical Constitution of the Proteins. By R. H. A. Plimmer, D.Sc., University Reader and Assistant Professor of Physiological Chemistry, University College, London. In two parts. Parts II. Synthesis, &c. Second edition. Price 3s. 6d. net.

MARLBOROUGH, E., AND CO., 51, Old Bailey, London, E.C.

Marlborough's Travellers' Practical Manual of Conversation. No. 2. In English, French, German, and Dutch. Price, cloth, 1s. 6d.
Norwegian Self-taught. By C. A. Thimm. Revised and enlarged by P. Th. Hanssen. Fifth edition. Price, cloth, 2s. 6d.
Portuguese Self-taught (Thimm's System). By E. da Cunha. Second edition, revised. Price, cloth, 2s. 6d.

MURRAY, JOHN, Albemarle-street, London, W.

Comparative Anatomy of Vertebrates. By J. S. Kingsley, Professor of Biology in Tufts College. Price 12s. net.
Heredity. By J. Arthur Thomson, M.A., Regius Professor of Natural History in the University of Aberdeen. Second edition. Price 9s. net.
Problems of Life and Reproduction. By Marcus Hartog, M.A., D.Sc., F.L.S., F.R.H.S., Professor of Zoology in University College, Cork. Price 7s. 6d. net.

PEOPLE'S REFRESHMENT HOUSE ASSOCIATION, LIMITED, Broadway Chambers, Westminster, London, S.W.

Public House Reform. Price 6d.

PITMAN, SIR ISAAC AND SONS, LIMITED, 1, Amen Corner, London, E.C.

A Hospital in the Making. A History of the National Hospital for the Paralysed and Epileptic (Albany Memorial), 1859-1901. By B. Burford Rawlings. Price 5s. net.

PUTNAM'S (G. P.) SONS, New York and London.

A History of Nursing. In Four Volumes. Volumes III. and IV. Edited, and in Part Written, by Lavinia L. Dock, R.N., Secretary of the International Council of Nurses, Graduate of Bellevue Training School, New York City. Price 21s. net, 2 vols.
A Stitch in Time. By a Roosevelt Hospital Graduate Nurse and a Grateful Patient. Price 3s. 6d. net.

REBMAN, LIMITED, London.

Retinoscopy (or Shadow Test) in the Determination of Refraction at one Meter Distance, with the Plane Mirror. By James Thorington, A.M., M.D. Sixth edition, revised and enlarged. Price 4s. 6d. net.

REID, ANDREW, AND CO., LIMITED, Newcastle-upon-Tyne. LONGMANS, GREEN, AND CO., London, New York, Bombay, and Calcutta.

Coal, and the Prevention of Explosions and Fires in Mines. By John Harger, M.Sc. Victoria, Ph.D. Heidelberg, M.Inst.M.E. Price 3s. 6d. net.

SAUNDERS (W. B.) COMPANY, London and Philadelphia.

The Principles and Practice of Obstetrics. By Joseph B. De Lee, A.M., M.D., Professor of Obstetrics at the North-Western University Medical School. Price 35s. net.
Obstetric and Gynecologic Nursing. By Edward P. Davis, A.M., M.D., Professor of Obstetrics in the Jefferson Medical College, Philadelphia. Fourth edition, thoroughly revised. Price 8s. net.
Diseases of the Stomach, Intestines, and Pancreas. By Robert Coleman Kemp, M.D., Professor of Gastro-intestinal Diseases in the New York School of Clinical Medicine. Second edition, revised and enlarged. Price 28s. net.

SCIENTIFIC PRESS, LIMITED, 28 and 29, Southampton-street, Strand, London, W.C.

Text-book of Massage and Swedish Gymnastics and Other Exercises. For Masseuses and Nurses. By Thomas D. Luke, M.D., F.R.C.S., Medical Superintendent, Peebles Hydro and Kur Hotel. Price 2s. 6d. net.

SHERRATT AND HUGHES, 33, Soho-square, London, W., and 34, Cross-street, Manchester.

The Deaths of the Kings of England. By James Rae, M.A., M.D. Price 4s. 6d. net.

STATE MEDICAL INSTITUTE. To be obtained through NORDISKA BOKHANDELN, Stockholm.

Investigations on Epidemic Infantile Paralysis. Report from the State Medical Institute of Sweden to the XV. International Congress on Hygiene and Demography, Washington, 1912. Price not stated.

SURGERY PUBLISHING CO., 92, William-street, New York.

Surgical Operations with Local Anæsthesia. By Arthur E. Hertzler, M.D., Surgeon to the Halstead Hospital, Halstead, Kan., and to the Swedish Hospital, Kansas City, Mo. Price 12s., post paid.

TRUTH PUBLISHING CO., LIMITED, London.

Truth Cautionary List for 1913. Price 1s. By post 1s. 2d.

UNIVERSITY PRESS, Cambridge. CAMBRIDGE UNIVERSITY PRESS, Fetter-lane, London, E.C. (C. F. Clay, Manager).

The Vertebrate Skeleton. By Sidney H. Reynolds, M.A., Professor of Geology in the University of Bristol. Second edition. Price 15s. net.

UNIVERSITY PRESS, Cambridge.

Voice Training for Choirs and Schools. By Cyril Bradley Rootham, M.A., Mus.D., Organist and Choirmaster, St. John's College, Cambridge. Price 4s. net.

UNIVERSITY PRESS OF LIVERPOOL, 57, Ashton-street, Liverpool.

Bacteriology. A Review and an Outlook. An Inaugural Lecture delivered before the University of Liverpool on Friday, December 6th, 1912. By J. M. Beattie, M.A., M.D., Professor of Bacteriology, and Bacteriologist to the City of Liverpool. Price 1s.

UNIVERSITY TUTORIAL PRESS, Burlington House, Cambridge, and 32, Red Lion-square, Holborn, London, W.C.

Matriculation Directory. No. 63, January, 1913. Price 1s. net.

YEAR BOOK PRESS, 31, Museum-street, London, W.C.

The Public Schools Year Book. 1913. Edited by H. F. W. Deane, M.A., F.S.A., and W. A. Evans, M.A. Price 5s. net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.

ALDOUS, GEORGE F., F.R.C.S. Edin., has been appointed Consulting Surgeon to the Tavistock Hospital, South Devon.

BOSANQUET, W. CECIL, M.D. Oxon., F.R.C.P. Lond., has been appointed Physician to the Hospital for Consumption and Diseases of the Chest, Brompton, S.W.

BROWNING, S. H., M.R.C.S., L.R.C.P. Lond., has been appointed Bacteriologist to the Central London Ophthalmic Hospital.

BUSH, JAMES PAUL, C.M.G., Ch.M. Bristol, M.R.C.S., L.S.A., has been appointed Honorary Consulting Surgeon to the Bristol Royal Infirmary.

COCKAYNE, EDWARD ALFRED, M.D. Oxon., M.R.C.P. Lond., has been appointed Assistant Physician to the Middlesex Hospital.

DOYLE, W., M.B., M.Ch. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Colne District of the county of Lancaster.

EVERSHED, A. REGINALD F., M.R.C.S., L.R.C.P. Lond., has been appointed Honorary Ophthalmic Surgeon to the London Association for the Blind.

GALBRAITH, SAMUEL NICOL, M.B., Ch.B. Glasg., has been appointed by the Lambeth Borough Council to take Charge of the Municipal Tuberculosis Dispensary.

GATCHELL, HOWARD V., L.R.C.P. & S. Edin., has been appointed Assistant School Medical Officer for Middlesex.

HARRIS, T. A. B., L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Burton Latimer District of the county of Northampton.

KING, Colonel W. G., C.I.E., M.B., C.M. Aberd., D.P.H., has been appointed Lecturer in Applied Hygiene in the Tropics at King's College, London.

MACKAY, JAMES FORBES, M.D. Edin., D.P.H., has been appointed Honorary Medical Superintendent of the X Ray and Electrical Department at the Royal Mineral Water Hospital, Bath.

MITCHELL, W. F., L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Hatherleigh District of the county of Devon.

MOIR, HUGH W., M.B., B.S. Glasg., has been appointed Assistant School Medical Officer for Middlesex.

NORRIS, ARTHUR H., M.R.C.S., L.R.C.P. Lond., D.P.H., has been appointed County Medical Officer for Tuberculosis under the Insurance Act by the Berkshire County Committee.

PEARSON, E., L.R.C.P. Edin., F.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Bideford District of the county of Devon.

RAMBAUT, FREDERICK, M.D., B.Ch., B.A.O. Dub., has been appointed Medical Superintendent of St. Andrew's Hospital, Northampton.

ROACH, W. F., M.D., C.M. Montreal, D.P.H., has been appointed Lecturer on School Hygiene for Medical Officers at King's College, London.

ROUTLEY, E. W., M.R.C.P. Lond., M.D. Brux., D.P.H., Medical Officer of Health, Aldershot, has been appointed Lecturer in Sanitary Law and Administration at King's College, London.

SHORT, ARTHUR RENDLE, M.D., B.S., B.Sc. Lond., F.R.C.S. Eng., has been appointed Honorary Assistant Surgeon to the Bristol Royal Infirmary.

STACK, EDWARD HUGH EDWARDS, M.B., B.C. Cantab., F.R.C.S. Eng., L.R.C.P. Lond., has been appointed Honorary Surgeon to the Bristol Royal Infirmary.

THOMAS, L. KIRKBY, M.R.C.S., L.R.C.P. Lond., has been appointed Anæsthetist to the Queen's Hospital, Birmingham.

WETHERED, FRANK J., M.D. Lond., F.R.C.P. Lond., has been appointed Physician to the Middlesex Hospital.

WILSON, HAROLD W., F.R.C.S. Eng., M.S. Lond., has been appointed Assistant Surgeon to St. Bartholomew's Hospital.

WILSON, WILLIAM, M.D., B.Sc. Manch., has been appointed Honorary Assistant Aural Surgeon to the St. John's Hospital of Manchester and Salford for the Ear and Eye.

WITTS, SOPHIA M. V., M.D. Lond., has been appointed Lady Tutor in Anatomy in the University of Sheffield.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BARNSLEY, BECKETT HOSPITAL AND DISPENSARY.—Second House Surgeon, unmarried. Salary £100, with apartments, board, and laundry.

BARNSTAPLE, NORTH DEVON INFIRMARY.—House Surgeon. Salary £100 per annum, with board, residence, and washing.

BEDFORD COUNTY HOSPITAL.—House Surgeon. Salary £100 per annum, with board, lodging, and laundry.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham-road, S.W.—Junior Resident Medical Officer. Salary at rate of £40 per annum, with board, residence, &c. Also Assistant Physician.

BERKSHIRE EDUCATION COMMITTEE.—Assistant Medical Inspector of Schools. Salary £300 per annum.

BIRKENHEAD BOROUGH HOSPITAL.—Two House Surgeons, Senior and Junior. Salaries £100 and £80 respectively, with board and laundry.

BIRKENHEAD UNION WORKHOUSE AND INFIRMARY.—Senior Resident Assistant Medical Officer. Salary £130 per annum, with board, apartments, &c.

BIRMINGHAM CITY HOSPITAL, Lodge-road.—Assistant Resident Medical Officer. Salary £150 per annum, with board, residence, &c.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Third House Surgeon. Salary £75 per annum, with board, rooms, and laundry allowance.

BRIDGWATER HOSPITAL.—House Surgeon, unmarried, for six months. Salary at rate of £100 per annum, with board, lodging, and washing.

BRIGHTON, COUNTY BOROUGH OF.—Tuberculosis Officer. Salary £500 per annum.

BRISTOL EYE HOSPITAL.—House Surgeon. Salary £80 per annum, with board, residence, and laundry.

BRISTOL GENERAL HOSPITAL.—Honorary Physician or Surgeon to Throat and Nose Department.

BRISTOL ROYAL INFIRMARY.—Obstetric and Ophthalmic House Surgeon for six months. Salary at rate of £75 per annum, with board, laundry, and apartments.

BUXTON, DEVONSHIRE HOSPITAL, Derbyshire.—Assistant House Physician for six months. Salary £100 per annum, with apartments, board, and laundry.

CAIRO, SCHOOL OF MEDICINE.—Assistant to Professor of Biology and Parasitology. Salary £400 per annum.

CAMBRIDGE, COUNTY ASYLUM.—Junior Assistant Medical Officer, unmarried. Salary £160 per annum, with board, lodging, washing, and attendance.

CANTERBURY BOROUGH ASYLUM.—Assistant Medical Officer, unmarried. Salary £160 per annum, with board, lodging, washing, and attendance.

CANTERBURY, KENT AND CANTERBURY HOSPITAL.—Honorary Surgeon.

CENTRAL LONDON SCHOOL DISTRICT, Hanwell.—Non-resident Medical Officer. Salary at rate of £200 per annum.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road.—Honorary Pathologist.

CHELSEA INFIRMARY, Cale-street, S.W.—Second Assistant Officer. Salary £140 per annum, with board, washing, apartments, &c.

COLCHESTER, ESSEX COUNTY HOSPITAL.—House Surgeon. Salary £80 per annum, with board, washing, and residence.

COUNTY COUNCIL OF MIDDLESEX.—Five Tuberculosis Medical Officers. Salaries £500 per annum.

DUNDER ROYAL INFIRMARY.—Resident Medical Officer. Also Obstetric Assistant (Outdoor) for three or six months. Salary £70 per annum.

EAST LONDON MUNICIPALITY, South Africa.—Medical Officer of Health. Salary £600 per annum.

FOUNDATION OF ST. OLAVE'S AND ST. SAVIOUR'S GRAMMAR SCHOOLS.—Consultant Medical Officer.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway-road, London, N.—House Physician for six months. Salary at rate of £40 per annum, with board, lodging, and laundry.

GUILDFORD, ROYAL SURREY COUNTY HOSPITAL.—House Surgeon. Salary £75 per annum, with board, residence, and laundry.

HAMPSTEAD GENERAL AND NORTH-WEST LONDON HOSPITAL.—House Physician and House Surgeon, In-patients' Department, Haverstock Hill, for six months. Salaries at rate of £70 per annum, with board, residence, and laundry. Also Assistant Casualty Officer, Out-patients' Department, Bayham-street, N.W., for six months. Salary at rate of £60 per annum, with board, residence, and laundry.

HEREFORD COUNTY AND CITY ASYLUM.—Assistant Medical Officer, unmarried. Salary £150 per annum, with board, lodging, washing, &c.

HUDDERSFIELD ROYAL INFIRMARY.—Junior Assistant House Surgeon. Salary £80 per annum, with board, residence, and washing.

KENSINGTON AND FULHAM GENERAL HOSPITAL, Earl's Court, S.W.—Resident Medical Officer. Salary at rate of £75 per annum, with board and laundry.

KETTERING AND DISTRICT GENERAL HOSPITAL.—Resident Medical Officer, unmarried. Salary £100 per annum, with board, residence, &c.

LIVERPOOL STANLEY HOSPITAL.—Resident Medical Officer. Salary £150 per annum, with residence, board, and laundry.

MACCLESFIELD GENERAL INFIRMARY.—Senior House Surgeon. Salary £100 per annum, with board and residence. Also Junior House Surgeon. Salary £80 per annum, with board and residence.

MANCHESTER, BAGULEY SANATORIUM FOR TREATMENT OF TUBERCULOSIS.—Assistant Medical Officer. Salary £200 per annum, with board and residence.

MANCHESTER CHILDREN'S HOSPITAL, Pendlebury, near Manchester.—Resident Medical Officer, unmarried, for six months. Salary at rate of £100 per annum.

MANCHESTER, HULME DISPENSARY, Dale-street, Stretford-road.—House Surgeon. Salary £160 per annum, with apartments, attendance, coal, and gas.

MANCHESTER ROYAL EYE HOSPITAL.—Junior House Surgeon. Salary £80 per annum, with residence, board, and washing.

MARGATE, ROYAL SEA BATHING HOSPITAL FOR SURGICAL TUBERCULOSIS.—Resident Surgeon. Salary at rate of £120 per annum, with board, residence, and laundry.

MIDDLESBROUGH, NORTH RIDING INFIRMARY.—Junior House Surgeon, unmarried, for six months. Salary at rate of £80 per annum, with board, residence, and laundry.

MILDMAY MISSION HOSPITAL, Austin-street, Bethnal Green, E.—Assistant Physician, Assistant Surgeon, and Anæsthetist.

MILLER GENERAL HOSPITAL FOR SOUTH-EAST LONDON, Greenwich-road, S.E.—Junior House Surgeon for six months. Salary at rate of £85 per annum, with board, residence, and laundry.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon. Salary £170. Also Resident and Assistant Resident Surgeons for Branch. Salaries £180 and £170 per annum respectively, with apartments, attendance, light, and fuel.

PARIS, BRITISH HOSPITAL.—Resident House Surgeon, unmarried. Salary £100 per annum, with board, lodging, and laundry.

PARISH OF SAINT LEONARD INFIRMARY AND WORKHOUSE, Shoreditch.—Resident Assistant Medical Officer. Salary £175 per annum, with rations, apartments, and washing.

PRESTON, COUNTY ASYLUM, Whittingham.—Assistant Medical Officer, unmarried. Salary £150 per annum, with board, apartments, and washing.

PRESTON ROYAL INFIRMARY.—Senior House Surgeon, unmarried, for six months. Salary £80 per annum, with board, residence, and washing.

RHONDDA URBAN DISTRICT COUNCIL.—Medical Examiner of School Children. Salary £250 per annum.

ROCHDALE INFIRMARY.—Junior House Surgeon, unmarried. Salary £80 per annum, with board, residence, and laundry.

ROTHERHAM HOSPITAL.—Senior House Surgeon. Salary £110 per annum, with board, lodging, and washing.

ROYAL FREE HOSPITAL, Gray's Inn-road, London, W.C.—Assistant Surgeon.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.—Cardiologist. Salary 25 guineas per annum.

ROYAL LONDON OPHTHALMIC HOSPITAL, City-road, E.C.—Senior House Surgeon. Salary at rate of £100 per annum, with board and residence.

ROYAL NAVAL MEDICAL SERVICE.—Twenty-five appointments.

ST. BARTHOLOMEW'S HOSPITAL.—Physician. Also Physician-Accoucheur.

ST. GEORGE'S UNION INFIRMARY, Fulham-road, S.W.—Second Assistant Medical Officer. Salary £130 per annum, with board, residence, and washing.

ST. PAUL'S HOSPITAL FOR SKIN AND GENITO-URINARY DISEASES, Red Lion-square, W.C.—Honorary Assistant Surgeon.

SALFORD ROYAL HOSPITAL.—Junior House Surgeon. Also Casualty House Surgeon for six months. Salary at rate of £65 per annum, with board and residence.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Junior House Surgeon for six months. Salary £80 per annum, with board, residence, &c.

SHEFFIELD, JESSOP HOSPITAL FOR WOMEN.—Assistant House Surgeon, unmarried. Salary £60 per annum, with board, residence, and laundry.

SHEFFIELD ROYAL HOSPITAL.—Assistant House Physician, unmarried Salary £60 per annum, with board, lodging, and washing.

SHEFFIELD ROYAL INFIRMARY.—House Surgeon, unmarried. Salary £70 per annum, with board and residence.
SHEFFIELD UNION HOSPITAL, Firvale.—Resident Assistant Medical Officer, unmarried. Salary £120 per annum, with apartments and rations.
SHREWSBURY, SALOP INFIRMARY.—House Physician for six months. Salary at rate of £90 per annum, with board and apartments.
SOUTHAMPTON, ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—Junior House Surgeon for six months. Salary at rate of £60 per annum, with rooms, board, and washing.
SOUTH SHIELDS, INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Senior and Junior House Surgeons. Salaries £100 and £90 per annum respectively, with residence, board, and washing.
STAFFORD, COTON HILL MENTAL HOSPITAL.—Assistant Medical Officer, unmarried. Salary £170 per annum, with residence, board, and laundry.
SURREY EDUCATION COMMITTEE.—Assistant Medical Officer. Salary £250 per annum.
TALGARTH, BRECON AND RADNOR ASYLUM, Breconshire.—Assistant Medical Officer, unmarried. Salary £170 per annum, with quarters, board, attendance, and laundry.
TAUNTON, SOMERSET AND BATH ASYLUM, Cotford.—Assistant Medical Officer, unmarried. Salary £150 per annum, with apartments, board, washing, attendance, &c.
TIVERTON HOSPITAL, Devon.—House Surgeon and Dispenser. Salary £80 per annum and all found.
TUNBRIDGE WELLS GENERAL HOSPITAL.—House Physician, unmarried. Salary £100 per annum, with board, residence, &c.
WALSALL AND DISTRICT HOSPITAL.—Secretary. Salary £175 per annum.
WANDSWORTH UNION INFIRMARY, St. John's Hill, near Clapham Junction.—Junior Assistant Medical Officer, unmarried, for six months. Salary at rate of £120 per annum, with board, lodging, and washing.
WARRINGTON INFIRMARY AND DISPENSARY.—Junior House Surgeon for six months. Salary at rate of £100 per annum, with apartments, maintenance, and laundry.
WARRINGTON, LANCASHIRE COUNTY ASYLUM, Winwick.—Pathologist and Assistant Medical Officer. Salary £200 per annum, with board, apartments, attendance, and washing.
WEST RIDING OF YORKSHIRE.—Assistant County Medical Officer. Salary £300 per annum.
WEST SUSSEX COUNTY COUNCIL.—County Medical Officer of Health. Salary £600 per annum.
WHITECHAPEL UNION INFIRMARY, Vallance-road, E.—Second Assistant Resident Medical Officer. Salary £100 per annum, with rations, apartments, and washing.
WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House Surgeon. Salary £100 per annum, with board, rooms, and laundry.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Acts at Donaghmore, in the county of Down; at Sevenoaks, in the county of Kent; and at Stevenage, in the county of Herts.

New Addresses.

BUXTON, DUDLEY W., M.D., 58, New Cavendish-street, W. Telephone: 4757 Mayfair.
COMERFORD, BEAUMONT H., M.D., 11, Chester-square, S.W.
GASKELL, J. F., M.D., 23, Ladbroke-grove, W. Telephone: 1989 Paddington.
LEE, H., M.B., F.R.C.S., 49, Queen Anne-street, W.
NACHBAR, J., M.D., 1, Wimpole-street, W.
OWEN, RAYLEY, M.R.C.S., The Yews, East Hagbourne, Didcot, Berks.
ROPER, RICHARD S., F.R.C.S., Jesselton, British North Borneo.
RUSS, CHARLES, M.B., 25, Beaumont-street, W.
TUCK, G. L. (WU LIEN TEH), M.D., Customs Buildings, Harbin, Manchuria.

A fee of 2s. 6d. is charged for the insertion of Notices of Change of Address, which must not exceed two lines.

Births, Marriages, and Deaths.

BIRTHS.

BROOKS.—On Feb. 28th, at Old Court, Hanger Hill, to Dr. and Mrs. Ralph St. John Brooks, a daughter (Kathleen Marion St. John).

MARRIAGES.

KENNARD—HOFFMANN.—On Feb. 26th, Dudley Kennard, F.R.C.S., to Frieda, only child of Mr. and Mrs. Louis Hoffmann, of Brandfort, O.F.S., and London.

DEATHS.

COLVIN-SMITH.—On March 1st, at Cresswell-gardens, South Kensington, S.W., Sir C. Colvin-Smith, K.C.B., K.H.S., M.D., in his 84th year.
HENDERSON.—On Feb. 27th, at Barkston-gardens, S.W., Edward Henderson, M.D., aged 72 years.
POIGNAND.—On March 2nd, at a nursing home, Malcolm Poignand, M.D., of The Beeches, Walsham-le-Willows, Suffolk, in his 63rd year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

PUBLIC HEALTH IN BRITISH GUIANA.

THE health of this colony during the year, April, 1911, to March, 1912, was fairly satisfactory, there having been no outbreaks of plague, yellow fever, or small-pox, and the death-rate having been 31·7 per 1000, compared with 34·4 per 1000 in the previous year. The birth-rate was 27·5 per 1000. Malarial fevers are prevalent, but great improvement has been effected in recent years. In 1906-07 the cases treated in the estates hospitals numbered 33,748; in 1910-11 they were 21,063; in 1911-12 they had fallen to 15,169. This diminution has been due to the adoption of vigorous anti-malarial measures, the chief of which have been the abolition of mosquito breeding grounds and free distribution of quinine. Ankylostomiasis has been extremely prevalent on the sugar estates in the colony, and the introduction every year of a large number of infected East Indian immigrants renders the eradication of the disease a matter of great difficulty. The measures adopted are: (1) erection of latrines; (2) systematic examination of all newly arrived immigrants and of all persons suffering from anæmia or showing the least signs of being infected with the parasite; and (3) treatment and constant observation of all known infected cases. Dr. J. E. A. Ferguson, of the Peter's Hall medical district, states that in 1904 the great majority of the coolies harboured the parasite, their efficacy for work being very much impaired, women being rendered sterile by the accompanying anæmia, and deaths being frequent; by the use of 10 grains of thymol, either in a cachet or preferably coated with chocolate in a "pulverette," given nightly except on Saturdays, the ova gradually diminish in the dejecta, and after four months entirely disappear; no ill-effects whatever are produced. The same medical officer has been successful in combating malaria by the regular administration of quite small doses of quinine. A spleen census is taken, and to the coolies with normal spleens a weekly dose of 5 grains is given; to those with the spleen enlarged a similar dose is given daily, with an additional 5 grains if the enlargement is very great. This very simple treatment is said to have caused marked reduction in malaria, both in attacks and deaths. The birth- and death-rates on the Diamond Estates had averaged 29·7 and 24·7 per 1000 respectively for the years 1908-11; since the adoption of this treatment at Providence these ratios have been (1911-12) 35·3 and 16·9 respectively. The bacteriological department reports unfavourably on the use of nastin in the treatment of leprosy, but states that benzoyl chloride in petroleum oil is extremely valuable as a nasal spray or paint for ulcerating surfaces; it quickly renders the discharge free from bacilli. The report of the Surgeon-General, Dr. J. E. Godfrey, with accompanying subsidiary reports, states the present condition of medical matters in British Guiana; but as no ratios of disease prevalence or mortality are mentioned, and but few references made to previous statistical reports, it is not possible to compare the condition of this colony as regards its public health either with that of other colonies or with its own record in previous years or decennial periods. The interest and value of the report are therefore, we think, considerably diminished.

OLD AGE AND RECUPERATIVE POWER.

To the Editor of THE LANCET.

SIR,—I think I can match Dr. W. Vernon Shaw's case published in THE LANCET of Feb. 8th, p. 431. Some few years ago during one of the influenza epidemics I was called to see an old lady nearer 100 than 90. Her complaint took the form of bronchitis, and instead of trained nurses we had the kindly ministrations of her two daughters, middle-aged ladies. She said that she hated doctors and medicine. She read her daily paper and was very active mentally and otherwise. At the time I happened to have an accumulation of sample bottles of a medicinal wine. This was the only physic given. She was comatose for two whole days, her mouth was full of "thrush," and we were naturally waiting for the end. But she persisted in recovering. They eventually went to live at Ventnor, and a notice of her death, aged 102, appeared in THE LANCET. Nowadays our old friend "Vis medicatrix Naturæ," I am afraid, is not so much trusted and relied upon as formerly.

I am, Sir, yours faithfully,

Crouch End, March 2nd, 1913. F. ORTON, M.D. Dub.

THE ARMY AND NAVY MALE NURSES' COÖPERATION.

THE fifth annual report of this association has been issued. The object of the association is to organise and utilise in civil employment the fully qualified male nurses who have received a costly training in the army and navy which is likely to be wasted on their leaving the service, since they often drift into unsuitable employment where their skilled training finds no market value. By their employment in civil life a double public need is subserved, for not only are

these deserving men found employment in which their skilled training renders them of special value, at the same time providing for a constant public need, but their efficiency as reservists, who will be called out to serve their country again in the event of war, is not allowed to deteriorate in time of peace. The Coöperation, of which Queen Alexandra is patroness and the Duke of Connaught patron, the president being Admiral Sir John Durnford, K.C.B. (vice Sir Frederick Treves, recently retired), and the chairman Sir Dyce Duckworth, maintains a residential home for the nurses at 11A, Welbeck-street, Cavendish-square, thus assuring to the public that the nurses come direct from suitable surroundings and giving facilities for a personal interview with the nurse before engaging him. The terms are moderate—2 guineas a week, 10*s.* 6*d.* a day or night of 12 hours, or 5*s.* 6*d.* an hour. Applications for nurses should be made to the Secretary, 11A, Welbeck-street, London, W.

A QUESTION IN LUNACY CERTIFICATION.

To the Editor of THE LANCET.

SIR,—A has a club patient who has been a subscriber of his for 14 years. During the last three months he has shown symptoms of insanity, which became so pronounced that on Saturday, Feb. 22nd, the relations were told by A to go to the relieving officer and to make arrangements with a magistrate living in the place, and that he, A, would meet them at the patient's home on the Monday at whatever time was arranged. Hearing on Sunday the relieving officer was from home, no arrangement was made with A. Nothing further was heard by A either on Monday or Tuesday, so on Wednesday he visited the patient, and to his surprise found that he had been taken to the asylum on the Monday. On further inquiry it transpired that the magistrate (a miner, who was also from home on business) could not be present, so the chairman of the urban district council, an *ex-officio* J.P. (also a miner), was asked by the relieving officer's son (acting in his father's absence), who (i.e., the J.P.) in turn asked *his* medical attendant, B, a stranger to the patient, to examine the case with him. B (who lives quite close to A) did so. It is hardly necessary to say anything about B's etiquette, but has a magistrate any right to ignore a patient's own medical man in such a case? The poor wife (poor in a double sense) was greatly annoyed, but told me she did not like to say anything. Both B and the magistrate knew that the patient was A's. A has not spoken to B about it as yet, as he desires to know his position first.

I am, Sir, yours faithfully,

March 3rd, 1913. B.A., M.D.

*** The Lunacy Act says nothing about the one medical certificate which is required in urgency orders being signed by the medical man in regular attendance. Of the two medical certificates required with reception orders on petition, one must, whenever practicable, be signed by the practitioner in regular attendance, and it seems clearly desirable that where an urgency order is necessary the one certificate accompanying it should be that of the usual medical attendant. The chairman of the urban district council in the case described apparently knew in whose medical care the patient was, and in our opinion he should have made an effort to secure his attendance in the patient's interest and as a matter of courtesy; but we do not see that B. could do otherwise than conform with the instructions of the magistrate.—ED. L.

SOUTH AFRICAN SNAKES.

FAR too little is known by the average practitioner in South Africa on the subject of the snakes commonly met with in that country. Mr. F. W. Fitzsimons, the curator of the Port Elizabeth Museum, has recently revised his book, "The Snakes of South Africa," and the results are to be found in the second edition, which has been published in Cape Town. The book is intended primarily for laymen, but it contains much that will appeal to the practitioner. The addenda particularly are noteworthy, including as they do memoranda on experiments carried out in the Government laboratories. Mr. Fitzsimons writes in an entertaining style, and apart from the value of the work from the standpoint of natural history, which is considerable, he has succeeded in producing a book that should be useful to the medical profession.

A PAMPHLET FOR INSURED PATIENTS.

MEDICAL men on the insurance panels, more particularly those in rural districts, would find very useful for distribution among their insured patients a little pamphlet on the National Insurance Act, by Mr. C. Clark Burman, L.R.C.P. & S. Edin., of Alnwick, Northumberland, which describes in the most temperate, reasonable, and convincing manner the responsibilities, rights, duties, and privileges of insured persons and medical men under the Act. It explains very clearly why the exercise of certain consideration for the medical man's time and convenience is so necessary, showing that far more than the doctor's comfort, his professional efficiency, and consequently the welfare of his patients collectively and individually, is dependent on the exercise of such consideration and forbearance. No price is mentioned, but the paper is published by J. C. Grant, the *Guardian* Office, 21, Bindgate Within, Alnwick.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY, Burlington House, London, W.

THURSDAY.—Mr. A. Mallock: A Simple Method of Finding the Approximate Period of Stable Systems.—Prof. J. S. Townsend and Mr. H. T. Tizard: The Motion of Electrons in Gases.—Prof. T. R. Lyle: On the Self Induction of Circular Coils of Rectangular Section.—Mr. A. E. H. Tutton: Ammonium Ferrous Sulphate and its Alkali-Metal Isomorphs.—Mr. H. Thirkill: On the Re-combination of the Ions produced by Röntgen Rays in Gases and Vapours (communicated by Sir J. J. Thomson, O.M.).—Dr. W. Wahl: Optical Investigation of Solidified Gases. III., The Crystal-properties of Chlorine and Bromine (communicated by Sir J. Dewar).

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

MONDAY.

SPECIAL MEETING OF FELLOWS OF THE SOCIETY: at 5 P.M.

Discussion:

On Alimentary Toxæmia: its Sources, Consequences, and Treatment.

Opening Addresses:

Dr. Hale White: General Survey.
Dr. F. W. Andrewes: The Bacteriology of the Alimentary Canal.
Dr. Vaughan Harley: The Toxins of the Alimentary Canal.
Dr. Robert Saundby: Consequences and Treatment from a Medical Point of View.
Mr. Arbuthnot Lane: Consequences and Treatment from a Surgical Point of View.
Mr. J. F. Colyer: Consequences and Treatment from a Dental Point of View.

The discussion will be re-opened by Mr. J. B. Lawford on Monday, April 14th, at 5 P.M., and will be continued on successive Mondays for as long as may be necessary.

TUESDAY.

SECTION OF PSYCHIATRY (Hon. Secretaries—R. H. Cole, Bernard Hart): at 4.30 P.M.

Clinical and Pathological Meeting at Claybury Asylum.

Cases:

Dr. Robert Jones: Two Cases for Diagnosis.
Dr. C. T. Ewart: (1) Katatoniac Stupor; (2) "Washing Mania."
Dr. F. Paine: (1) Osteitis Deformans; (2) Organic Disease of the Nervous System, presenting some Features of General Paralysis; (3) Cerebral Tumour illustrating the Value of Decompression.

Demonstrations:

Dr. F. W. Mott, F.R.S.: (1) Some Recent Investigations on the Bio-chemistry of the Neuron; (2) Spirochæta Pallida (Noguchi) in Culture (living); (3) Changes in Central Nervous System in a Case of Myxœdema; (4) Changes in Central Nervous System in Two Cases of Pellagra.

SECTION OF SURGERY (Hon. Secretaries—James Berry, J. Murray): at 5.30 P.M.

Mr. T. H. Kellock: Ligature of the Renal Artery and Vein as a Substitute for Nephrectomy.
Mr. J. Swift Joly: Three Unusual Cases of Renal Tumour, with a discussion on the Operative Treatment.
Mr. J. Hutchinson: The Symptoms produced by Aberrant Renal Arteries, and a Clinical Study of the Indications and Results of Operation.

WEDNESDAY.

SECTION OF OPHTHALMOLOGY and SECTION OF NEUROLOGY: at 8 P.M. } Combined Meeting.

Discussion:

On Disease of the Pituitary Body will be re-opened by Dr. H. G. Turney and Dr. Grünbaum.

Specimens will be shown by Dr. Grünbaum, Dr. William Hill, and others.

THURSDAY.

SECTION OF DERMATOLOGY (Hon. Secretaries—Wilfrid Fox, J. M. H. MacLeod): at 5 P.M.

Cases:

Dr. F. Parkes Weber: Artificial Skin Eruption (drawing).
Dr. J. H. Sequeira: (1) Multiple Cysts; (2) Tuberculosis of Skin and Phalanges in a Young Child.
Dr. Haldin Davis: Leucodermia Circumscripta.
And other Cases.

FRIDAY.

CLINICAL SECTION (Hon. Secretaries—C. H. Fagge, W. Essex Wynter): at 8.30 P.M.

Dr. F. Parkes Weber: (1) Baggy Subcutaneous Fat Simulating Symmetrical Œdema of the Legs; Disorder of Internal Secretions; (2) Hypoplasia of the Right Limbs of Cerebral Origin.
Dr. Essex Wynter: Case of Multiple Large Baker's Cysts associated with Arthritis.
Dr. A. F. Hertz and Dr. W. Johnson: Progressive Muscular Atrophy and Primary Muscular Dystrophies in Four Members of a Family.
And other Cases.

Paper:

Dr. A. F. Hertz: "Bastedo's Sign"—a New Symptom of Chronic Appendicitis.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

MONDAY.—8.30 P.M., Dr. E. H. Shaw: Demonstration of Method of Rapid Section of Tissues for Microscopical Diagnosis.—Dr. H. J. Gauvain: Demonstration of the Method and Uses of Celluloid Splints.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN, Lecture Theatre of the Society, 17, Bloomsbury-square, W.C.

TUESDAY.—8 P.M., Paper:—Mr. H. A. D. Jowett: The Relation of Galenical Preparations to their Active Principles. Communication from the Society's Pharmacy Research Laboratory:—Prof. H. G. Greenish and Miss D. J. Bartlett: Powdered Liquorice Root and Senna of Commerce.

CHELSEA CLINICAL SOCIETY, Club Rooms of the Medical School, St. George's Hospital, S.W.

TUESDAY.—8.30 P.M., Annual Clinical Debate on Neurasthenia. Paper:—Dr. J. S. R. Russell: The Diagnosis, Prognosis, and Treatment of Neurasthenia. Followed by a discussion in which Dr. T. B. Hyslop, Dr. G. Holmes, Dr. Ll. Smith, and others will take part.

UNITED SERVICES MEDICAL SOCIETY, Royal Naval Medical College, Greenwich, S.E.

WEDNESDAY.—5 P.M., Fleet-Surgeon L. Kilroy, R.N.: Salvarsan in the Navy.

ROYAL METEOROLOGICAL SOCIETY, Surveyors' Institution, 12, Great George-street, Westminster, S.W.

WEDNESDAY.—7.30 P.M., Lecture:—Mr. R. G. K. Lempfert: British Weather Forecasts, Past and Present (illustrated by lantern slides).

HUNTERIAN SOCIETY, St. Bartholomew's Hospital, E.C.

WEDNESDAY.—9 P.M., Short Papers:—Dr. H. L. Tidy: Myeloblastic Leukæmia (with illustrative microscopic slides).—Dr. F. H. Humphris: Non-infective Inflammation and Modern Electro-Therapeutic Measures in its Treatment.—Mr. E. R. Carling: Some Injuries of the Fingers (with photographs).

CHILD STUDY SOCIETY, LONDON, Royal Sanitary Institute, 90, Buckingham Palace-road, S.W.

THURSDAY.—7.30 P.M., Miss N. March: The Teaching of Sexual Hygiene.

HARVEIAN SOCIETY OF LONDON, Stafford Rooms, Titchborne-street, Edgware-road, W.

THURSDAY.—8.30 P.M., Papers:—Dr. V. Bonney: The Necessity of Recognising Midwifery as a Branch of Surgery.—Dr. H. Williamson: The Determination of the Significance of Albuminuria in Pregnancy.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East.

TUESDAY AND THURSDAY.—5 P.M., Dr. F. de H. Hall: Intra-thoracic Aneurysm. (Lumleian Lectures).

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.

MONDAY AND WEDNESDAY.—5 P.M., Dr. W. B. Bell: The Genital Functions of the Ductless Glands (illustrated by lantern slides of photomicrographs and colour photomicrographs. (Arris and Gale Lectures.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. H. MacCormac: Clinique (Skin). 5.15 P.M., Lecture:—Dr. J. D. Grant: Nasal Disease in Relation to Asthma.

TUESDAY.—4 P.M., Dr. E. Pritchard: Clinique (Medical). 5.15 P.M., Lecture:—Dr. R. A. Gibbons: The Etiology and Treatment of Puerperal Eclampsia.

WEDNESDAY.—4 P.M., Mr. J. Berry: Clinique (Surgical). 5.15 P.M., Lecture:—Mr. J. E. Adams: Concerning Intestinal Obstruction.

THURSDAY.—4 P.M., Dr. J. R. Russell: Clinique (Medical). 5.15 P.M., Lecture:—Mr. J. S. Joly: Pain as a Symptom of Renal Disease.

FRIDAY.—4 P.M., Mr. S. Stephenson: Clinique (Eye).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 10.30 A.M., Medical Registrar: Demonstration of Cases in Wards. 12 noon, Dr. Bernstein: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Mr. Addison: Syphilitic Diseases of Bones and Joints.

TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 10.30 A.M., Surgical Registrar: Demonstration of Cases in Wards. 12 noon, Mr. T. Gray: Demonstration of Fractures, &c. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Diseases of the Skin. 5 P.M., Lecture:—Mr. Pardoe: Clinical (Urinary Surgery).

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 11 A.M., Mr. Souttar: Demonstration of Minor Operations. 12 noon, Lecture:—Mr. Souttar: Abdominal Diagnosis. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Mr. B. Harman: Diseases of the Eye. Dr. Simson: Diseases of Women. 5 P.M., Lecture:—Dr. Beddard: Practical Medicine.

THURSDAY.—10.30 A.M., Dr. Simson: Gynæcological Demonstration. 12.15 P.M., Lecture:—Dr. G. Stewart: Neurological Cases. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Mr. Baldwin: Practical Surgery.

FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 10.30 A.M., Lecture:—Dr. Owen: Practical Medicine. 12.15 P.M., Lecture:—Dr. Bernstein: Clinical Pathology. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Diseases of the Skin. 5 P.M., Lecture:—Dr. Simson: Clinical (Gynæcology).

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Diseases of the Eye. 10.30 A.M., Surgical Registrar: Demonstration of Cases in Wards. 12 noon, Lecture:—Mr. Souttar: Surgical Anatomy of the Abdomen. 2 P.M., Medical and Surgical Clinics. X Rays. Operations.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10.30 A.M., Surgical Out-patient (Mr. H. Gillespie). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Nose, Throat, and Ear (Mr. H. D. Gillies). 3 P.M., Clinical Pathology and Pathological Demonstration (Dr. W. H. Duncan).

TUESDAY.—Clinic; 2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. Howell Evans); Gynæcological (Dr. A. E. Giles). 3.30 P.M., Medical In-patient (Dr. A. J. Whiting). 4.30 P.M., Lecture:—Dr. R. M. Leslie: Internal Glandular Secretions and their Bearing on Treatment.

WEDNESDAY.—Clinics:—2 P.M., Throat Operations (Mr. Gillies). 2.30 P.M., Children's Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks). 3 P.M., X Rays (Mr. W. Steuart); Clinical Pathology and Pathological Demonstration (Dr. W. H. Duncan). 5.30 P.M., Eye Operations (Mr. Brooks).

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. E. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. Carson). 3 P.M., Medical In-patient (Dr. G. P. Chappel). 4.30 P.M., Lecture-Demonstration:—Mr. W. Steuart: The Technique of Ionic Medication.

FRIDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. E. Gillespie); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. R. M. Leslie); Clinical Pathology and Pathological Demonstration (Dr. W. H. Duncan).

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.

MONDAY (and will continue for a week).—Special Post-Graduate Course in Diagnosis and Treatment of Pulmonary Tuberculosis:—Morning: Demonstrations and Practical Work in the Laboratory. Afternoon: Clinical Demonstration in the General and Special Out-patient Department and in the Wards. 4.30 P.M., Series of Public Lectures.

WEDNESDAY.—4.30 P.M., Sir R. D. Powell, K.C.V.O.: Climatic Treatment of Consumption.

FRIDAY.—Expedition to Frimley, leaving Waterloo at 1.5 P.M. Demonstration will be given at the Sanatorium.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—3.30 P.M., Clinical Lecture:—Dr. F. Batten: Progressive Muscular Atrophy in Childhood.

FRIDAY.—3.30 P.M., Clinical Lecture:—Dr. F. Buzzard: Clinical Cases.

CANCER HOSPITAL, Museum of the Hospital, Fulham-road, S.W.

WEDNESDAY.—5 P.M., Mr. H. Wilson: Cancer of the Uterus (illustrated by cases and microscopic and other specimens).

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.

Course of Lecture-Demonstrations on Diseases of the Chest, with Special Reference to Tuberculosis (including a Tuberculin Course):—

TUESDAY.—4.30 P.M., Dr. Phear.

THURSDAY.—4.30 P.M., Mr. Gauvain.

LISTER INSTITUTE OF PREVENTIVE MEDICINE, Chelsea Bridge-road, S.W.

TUESDAY.—5 P.M., Dr. H. Chick: The Laws Governing Disinfection by Various Agencies.

THURSDAY.—5 P.M., Prof. A. Harden: The Chemical Action of Bacteria.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road, W.C.

TUESDAY.—3.45 P.M., Lecture:—Dr. A. Wylie: Diseases of the Larynx.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, 49, Leicester-square, W.C.

TUESDAY.—6 P.M., Mr. W. Hampson: X Rays. Deeper Tissues.

THURSDAY.—6 P.M., Dr. M. Dockrell: Treatment by Cataphoresis and Electro-Inunction.

UNIVERSITY OF LONDON (UNIVERSITY COLLEGE), The Francis Galton Laboratory for National Eugenics.

TUESDAY.—8 P.M., Lecture:—Mr. W. P. Elderton: On the Mortality of the Phthisical under Sanatorium and Tuberculin Treatments.

LONDON HOSPITAL MEDICAL COLLEGE (UNIVERSITY OF LONDON), London Hospital, Mile End-road, E.

Course of Lectures and Demonstration on Neurology (illustrated with Clinical Cases):—

MONDAY.—4.30 P.M., Dr. T. Thompson: Paraplegia.

TUESDAY.—4.30 P.M., Dr. Turnbull: Dementia Paralytica.

WEDNESDAY.—4.30 P.M., Dr. G. Holmes: The Pons and Mid-Brain.

FRIDAY.—4.30 P.M., Dr. H. Head: Disseminated Sclerosis.

ROYAL INSTITUTION OF GREAT BRITAIN, Albemarle-street, Piccadilly, W.

FRIDAY.—9 P.M., Mr. A. E. H. Tutton: Great Advance in Crystallography (experimentally illustrated).

SATURDAY.—3 P.M., Prof. Sir J. J. Thomson, O.M.: The Properties and Constitution of the Atom. (Lecture VI.)

ANCOATS HOSPITAL, Manchester.

THURSDAY.—4.15 P.M., Mr. J. Morley: Enteroptosis. (Post-Graduate Clinic.)

MANCHESTER ROYAL INFIRMARY.

TUESDAY.—4.30 P.M., Dr. H. Griffith: Demonstration of Cases illustrating Diseases of the Eye. (Post-Graduate Clinic.)

BIRMINGHAM GENERAL HOSPITAL.

TUESDAY.—3.30 P.M., Dr. S. Haynes: The Administration of Anæsthetics. (Post-Graduate Clinic.)

For further particulars of the above Lectures, &c., see Advertisement Pages.

A DIARY OF CONGRESSES.

We shall publish this diary from time to time that our readers may have under their hands the dates of the approaching scientific Congresses. It is unnecessary to issue the lists of all these functions week by week, and we propose to make only such gatherings as will occur in the immediate future the subject of regular announcement. The following Congresses, Conferences, and Exhibitions are announced:—

March 1st (University of London).—Eugenics Education Conference.
" 17th–20th (Paris).—International Congress of Physical Education.
(Easter week) (Berlin).—Fourth International Congress for Physiotherapy.
March 25th (Berlin).—Twelfth Congress of the German Association for Orthopædic Surgery.
" 26th–29th (Berlin).—Forty-second Congress of the German Surgical Association.
" 29th and 30th (Berlin).—Ninth Congress of the German Roentgen Society.
April 3rd–9th (London).—International Congress of Historical Studies.
" 6th–12th.—Health Week.
" 15th–18th (Wiesbaden).—Congress of Internal Medicine.
" 22nd–25th (London, Horticultural Hall).—Nursing Conference and Exhibition.
" 26th (Ghent) (opens).—International Exhibition.
May 14th–18th (Paris).—Twenty-first Annual Congress of the Royal Institute of Public Health.
June 24th–27th (London, Ontario).—Canadian Medical Association.
July 7th–12th (Exeter).—Twenty-eighth Congress of the Royal Sanitary Institute.
" 16th–18th (Oxford, Keble College).—Oxford Ophthalmological Congress.
Aug. 4th and 5th (London, Caxton Hall).—English-speaking Conference on Infant Mortality.
" 6th–12th.—(London).—Seventeenth International Congress of Medicine.
" 20th (Ghent).—Third International Congress of Neurology and Psychiatry.
Sept. 2nd–6th (Groningen).—International Physiological Congress.
" 9th–13th (Vienna).—Second International Congress of Life Saving and Prevention of Accidents.
" 10th–17th (Birmingham).—British Association.
" 22nd–28th (Milan).—Fourteenth International Anti-alcoholic Congress.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentlemen who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index and Title-page to Vol. II. of 1912 were given in THE LANCET of Dec. 28th, 1912.

VOLUMES AND CASES.

VOLUMES for the second half of the year 1912 are now ready. Bound in cloth, gilt lettered, price 16*s.*, carriage extra.

Cases for binding the half-year's numbers are also ready. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 3*d.*

To be obtained on application to the Manager, accompanied by remittance.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, London, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

THE COLONIAL AND FOREIGN EDITION (printed on thin paper) is published in time to catch the weekly Friday mails to all parts of the world.

The rates of subscriptions, post free from THE LANCET Offices, have been reduced, and are now as follows:—

FOR THE UNITED KINGDOM.		TO THE COLONIES AND ABROAD.	
One Year	£1 1 0	One Year	£1 5 0
Six Months	0 12 6	Six Months	0 14 0
Three Months	0 6 6	Three Months	0 7 0

(The rate for the United Kingdom will apply also to Medical Subordinates in India whose rates of pay, including allowances, is less than Rs.50 per month.)

Subscriptions (which may commence at any time) are payable in advance. Cheques and Post Office Orders (crossed "London County and Westminster Bank, Covent Garden Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Offices, 423, Strand, London, W.C.

TO COLONIAL AND FOREIGN SUBSCRIBERS.

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied.

SOLE AGENTS FOR AMERICA—MESSRS. WILLIAM WOOD AND CO., 51, Fifth Avenue, New York, U.S.A.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, March 5th, 1913.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Feb. 27	29·77	N.	0·01	83	53	45	44	45	Cloudy
" 28	30·22	N.	...	75	44	39	38	39	Overcast
Mar. 1	30·33	S.E.	...	52	43	39	38	40	Overcast
" 2	30·03	S.W.	0·04	79	52	39	43	46	Cloudy
" 3	30·01	S.W.	...	65	54	42	49	50	Cloudy
" 4	30·02	S.W.	0·07	65	54	42	47	47	Overcast
" 5	30·08	S.W.	...	95	58	47	47	50	Fine

The following journals, magazines, &c., have been received:—St. Bartholomew's Hospital Journal, American Journal of Orthopedic Surgery, Pediatrics, Tropical Diseases Bulletin, Journal of the Royal Sanitary Institute, Surgery, Gynecology, and Obstetrics, Guy's Hospital Gazette, Revue d'Hygiène et Police Sanitaire, La Clinique Infantile, Review Neurology and Psychiatry, Archiv für Experimentelle Pathologie und Pharmakologie, Journal of Nervous and Mental Disease, Transvaal Medical Journal, South African Medical Record, Journal de Médecine de Bordeaux, Abolitionist, Journal of Hygiene, Public Health, Zoophilist, Medical Review, Edinburgh Medical Journal, Quarterly Journal of Experimental Physiology, Polyclinic, Practitioner, Journal of Laryngology, Rhinology, and Otology, British Journal of Children's Diseases, &c.

Communications, Letters, &c., have been received from—

A.—Mr. J. Astier, Asnières; Ardath Tobacco Co., Lond.; Anglo-American Pharmaceutical Co., Croydon; Mr. J. E. Adams, Lond.; Dr. W. Broughton Alcock, Paris; A. T. M.; Mr. H. Brunton Angus, Newcastle-on-Tyne; Altruist, Alderney; American Medical Association, Chicago, Secretary of.

B.—Brecon and Radnor Asylum, Talgarth, Secretary of; Birkenhead Union, Clerk to the; British Organotherapy Co., Lond.; Bayer Co., Lond.; Mr. Sidney Boyd, Lond.; Barnstaple, Medical Officer of Health of; Mr. C. S. Buck, St. Albans; Mr. Edmund C. Bevers, Oxford; Mr. Hubert H. Browne, Ipswich; Dr. W. Blair Bell, Liverpool; Mr. A. A. Bradburne, Southport; Dr. Charles A. Bucklin, Glasgow; Fleet-Surgeon P. W. Bassett-Smith, R.N., Lond.; Mr. J. Berry, Lond.; Messrs. J. Bell and Croyden, Lond.; Bootham Park Mental Hospital, York, Medical Superintendent of; Birmingham Corporation, Clerk to the; Bristol General Hospital, Secretary of; Mr. A. Barker, Lond.; Bristol Eye Hospital, Secretary of; Dr. J. B. Berkart, Lond.; Mr. F. O. Baird, Hove; British Fire Preventing Committee, Lond., Assistant Secretary of.

C.—Messrs. T. Craven and Sons, Manchester; Canterbury Borough Asylum, Clerk to the; Messrs. J. and A. Churchill, Lond.; Dr. Charles V. Craster, Rosebank, N.Y.; Dr. Sidney Coupland, Lond.; Messrs. Carfax, Lond.; Dr. M. Connon, Montrose; Mr. Curtis, Paignton; Messrs. Carnrick Co., Lond.; Messrs. Corbyn, Stacey, and Co., Lond.; Dr. G. Trew Cattell, Egham; Dr. E. Curtin, Bournemouth.

D.—Dr. C. C. Datta, Calcutta; Mr. T. Dixon, Lond.; Dr. Thomas Dutton, Lond.; Dr. Vincent Dickinson, Lond.; Messrs. Dickinson, Cruickshank, and Co., Ramsey; Dalmeny Hydro, Ramsey, Proprietor of.

E.—Electrical Engineering and Equipment Co., Lond.; Ecsölent Compounds, Ltd., Lond.; Mr. George S. Elliston, Lond.; Mr. H. C. Ellis, Wednesbury; E. T.

F.—Dr. C. Fraser, Bradford; Dr. H. P. Fairlie, Glasgow; Mr. Edward Fothergill, Lond.; Messrs. Freeman and Co., Lond.; Messrs. Fannin and Co., Dublin; Dr. Leonard Findlay, Glasgow; Mr. A. S. L. Farquharson, Oxford; Mr. W. Francis, Lond.; Mr. Duncan C. L. Fitzwilliams, Lond.

G.—Professor J. Glaister, Glasgow; Mr. J. Good, Blackrod.

H.—Dr. H. R. Harrower, Lond.; Dr. F. de Havilland Hall, Lond.; Hastings, Town Clerk of; Mr. K. W. Hiersemann, Leipzig; Dr. R. H. Hodgson, Lond.; Hospital for Sick Children, Lond., Secretary of; Dr. J. Howard-Jones, Newport.

I.—Messrs. Ingram and Royle, Lond.; Illuminating Engineering Society, Lond.

J.—Mr. W. Judd, Lond.; Mr. Frederick Johnson, Worthing; Dr. Robert Jardine, Glasgow; Mr. E. Judson, Lond.; J. F.; Dr. F. Wood Jones, Lond.; J. H.

K.—Messrs. C. Knight and Co., Lond.; Kettering and District General Hospital, Secretary of; King Edward VII.'s Hospital, Cardiff, Secretary of; Dr. Knight, Edinburgh; Kent and Canterbury Hospital, Secretary of; Mr. J. H. Keys, Plymouth; Messrs. J. Klaasesz et Cie, Hengelo; Major W. H. Kenrick, I.M.S., Marseilles.

L.—Liverpool Corporation, Clerk to the; Lancs County Asylum, Winwick, Secretary of; Leeds General Infirmary, Secretary of; London Press Exchange, Lond.; Messrs. E. and S. Livingstone, Edinburgh; Mr. E. Leitz, Lond.; Mr. S. Lockhart, Boreham Wood; London Hospital Medical College, Secretary of; Local Government Board, Lond., Secretary of; Mr. H. K. Lewis, Lond.; Liverpool Corporation, Manager of the Stationery Department; Mr. O. R. Lohde, Bradford; Dr. Arthur P. Luff, Lond.; Livingstone College, Leytonstone, Principal of; Mr. Harry Lee, Lond.

M.—Mr. W. Martindale, Lond.; Macclesfield General Infirmary, Secretary of; Medical Correspondence College, Lond., Secretary of; Manchester Medical Agency, Secretary of; Dr. Angus Macdonald, Kingston, Jamaica; *Montreal Star*, Lond.; Dr. H. Meier, Munich; Messrs. Murray, Morgan, and Co., Lond.; Mr. R. Mosse, Berlin; Mr. R. W. Murray, Liverpool; Dr. E. M. Merrins, Wuchang; Mr. C. MacMahon, Lond.; Dr. H. J. May, Southampton; Dr. J. Campbell McClure, Lond.; Lieutenant-Colonel J. J. de Z. Marshall, Thames Ditton; Metropolitan Asylums Board, Lond., Clerk to; Dr. Angus Macnab, Lond.

N.—Mr. H. Needes, Lond.; Dr. H. G. Nelson, Tatton; National Anti-vaccination League, Lond., Secretary of; National Food Reform Association, Lond.; The Nurses' Co-operation, Lond.

O.—Ozonair, Ltd., Lond.; *The Ophthalmoscope*, Lond.

P.—Messrs. Peacock and Hadley, Lond.; Poplar, Medical Officer of Health of; Mr. E. B. Pearsall, Letchworth; Dr. Alfred R. Parsons, Dublin; Mr. J. Beaumont Percival, Lond.; Mr. F. T. Paln, Lond.; Philmar Co., St. Louis; Mr. F. W. Pilkington, Kencott; Mr. H. G. Phippen, Liverpool; Preston Royal Infirmary, Secretary of; Dr. Constant Ponder, Maidstone; Mr. D'Arcy Power, Lond.

R.—Royal South Hants and Southampton Hospital, Sec. of; Dr. W. Robertson, Durban; Reigate, Medical Officer of Health of; Dr. H. Renney, Sunderland; Mr. William Rushton, Lond.; Dr. Charles Russ, Lond.; Dr. J. Reynolds, Lond.; Royal Academy of Medicine in Ireland, Dublin; Royal Medical Benevolent Fund, Lond., Hon. Secretary of; Mr. B. G. Roy, Amta, India; Royal Infirmary, Sheffield, Secretary of; Rhondda Urban District Council, Pentre, Clerk to the; Dr. John J. Robertson, Portpatrick.

S.—Mr. P. S. Salaman, Lond.; Stockport Infirmary, Secretary of; Scarborough Hospital, Secretary of; *Shrewsbury Chronicle*, Shrewsbury, Manager of; St. Paul's Hospital, Lond., Secretary of; Sanitas Electrical Co., Lond.; Sheffield Union, Clerk to the; Messrs. G. Street and Co. Lond.; Mr. F. W. Sears, Lond.; Salford Royal Hospital, Secretary of; Mr. M. Schaerer, Lond.; Sir Felix Semon, Great Missenden; Sir James Sawyer, Birmingham; Mr. P. Schmidt, Basle; Mr. T. Sambucetti, Lond.; Mr. C. Streather, Lond.; Dr. T. G. Starkey Smith, Hungerford; Société de l'Aniodol, Paris, Manager of; Somerset and Bath Asylum, Taunton, Clerk to the; Messrs. R. Sumner and Co., Liverpool; Dr. G. de Swietochowski, Lond.

T.—Tiverton Hospital, Secretary of; Tunbridge Wells General Hospital, Secretary of; Mr. G. Thelm, Leipzig; Dr. John Tatham, Lynton; Dr. Frederick Taylor, Lond.; Mr. Eustace Thorp, Caledon; Dr. W. J. Tulloch, Newcastle-on-Tyne; Messrs. W. Thacker and Co., Lond.; Mr. J. Thin, Edinburgh; Dr. Thyne, Lond.; Dr. F. W. Tunnicliffe, Lond.

V.—Dr. C. W. Vickers, Paignton; *The Vaccination Inquirer*, Lond.; Messrs. G. Van Wyk and Co., Lond.

W.—Mr. G. R. Ward, Lond.; Messrs. R. F. White and Son, Lond.; Windover's, Ltd., Lond.; Messrs. J. Wright and Sons, Bristol; Dr. N. Wood, Lond.; Dr. F. Parkes Weber, Lond.; Dr. W. Hale White, Lond.; Mr. R. F. S. Wallace, Skegness; Mr. Cuthbert Wallace, Lond.; Wassermann Institute, Lond.; West London Medico-Chirurgical Society, Hon. Secretaries of; Mr. R. L. Wason, Marseilles; Waterbury Chemical Co., Des Moines, U.S.A.; W. J. B.; Mrs. Hamilton Williams, Colwall; Washington Advertising Agency, Washington, President of; West Sussex County Council, Lewes, Clerk to the; Mr. J. Wanamaker, Paris; Mr. W. Whitebrook, Lond.; Walker-Gordon Laboratories, Lond., Manager of; Messrs. W. J. Wilcox and Co., Lond.; Dr. J. H. Whiteside, Kilham; West End Hospital, Lond., Secretary of; Whitechapel Guardians, Lond., Clerk to.

Letters, each with enclosure, are also acknowledged from—

A.—Messrs. Allen and Hanburys, Lond.; Ancoats Hospital, Manchester, Secretary of; Mr. J. Johnston Abraham, Lond.; Dr. W. Alexander, Liverpool; A. R.; Dr. C. Addison, M.P., Lond.

B.—Dr. L. T. Burra, Aylesbury; Mr. J. B. Brash, Birmingham; Mrs. Brock, Lond.; Brighton, Hove, and Preston Dispensary, Secretary of; Dr. T. P. Berry, Swindon; Birmingham and Midland Hospital for Women, Secretary of; Dr. J. E. Barnes, Jeram.

C.—Mr. C. E. Cowen, Uitenhage; Mrs. Chieue, Halesowen; Mr. F. Clarke, Crediton; Colmer, Yeovil; Hon. Dr. J. M. Creed, Minehead; Messrs. J. and A. Carter, Lond.; Messrs. Constable and Co., Lond.; Messrs. Clarke, Son, and Platt, Lond.; Miss Curtiss, Paignton; Messrs. Crossley and Co., Lond.; Coton Hill Hospital, Stafford, Clerk to the; Mr. E. Castoldi, Brescia.

D.—Messrs. G. T. De Fraine and Co., Aylesbury; Dispenser, Evesham.

E.—Mr. Elliot-Blake, Bognor; Mr. F. G. Ernst, Lond.; Mr. E. Evans, Felinfach.

F.—Messrs. Fremlin Bros., Maidstone; Messrs. Fairchild Bros. and Foster, Lond.; Federation of Friendly Societies, Londonderry, Joint Secretaries of.

G.—Galen Manufacturing Co., Lond.; Mr. W. B. Gomley, Edinburgh; Messrs. W. Goldsmith and Co., Lond.

H.—Dr. W. J. Howarth, Maidstone; Dr. R. W. Haslett, Pontypool; Hereford County and City Asylum, Clerk to the; Harley Institute, Lond., Principal of; Dr. J. Hunter, Linlithgow; Hertford British Hospital, Paris, Secretary of; H. F. G. N.; H. P. M.

J.—Mr. S. F. G. James, Hoylake; Jeyes' Sanitary Compounds Co., Lond.; Dr. H. L. Jones, Lond.

K.—Messrs. S. Kutnow and Co., Lond.; Dr. W. A. Kidd, Lond.; King Edward VII. Sanatorium, Midhurst.

L.—Dr. J. F. Little, Lond.; Dr. T. S. Logan, Exminster; Leicester Infirmary, Secretary of; Lister Institute, Lond., Director of; L. R. G. W.; Mr. B. M. Lewis, Pontypridd.

M.—Dr. T. Mitchell, Gorseinon; Mr. S. A. Mahmood, Penygraig; Messrs. Maruys and Co., Tokyo; Dr. D. Millar, Winterton; Montreal General Hospital, Secretary of; Mr. J. More, Rothwell; Mr. F. McBain, Leytonstone; Miss McHardy, Letheringsett; Miss Mickle, Wigtown; Captain J. H. A. Maughan, R.A.M.C., Netley; Dr. J. Menzies, Ramsey; Dr. R. H. Morrison, Toorak; Lieutenant-Colonel K. L. R. Macleod, R.A.M.C., Devonport; Mr. R. H. Moyle, Heintridge; Mr. R. McKay, Lond.; Mr. J. E. May, Lond.

N.—Dr. W. P. Nicol, Lusikisiki, S.A.; Dr. T. Nelson, Birmingham; Messrs. Neale and Wilkinson, Lond.

O.—Oxford County Asylum, Littlemore, Clerk to the.

P.—Messrs. G. Payne and Co., Lond.; Physicians' Club, Peoria, U.S.A., Secretary of; Mr. F. J. Patton, Ascot.

R.—Mr. T. Richards, Birmingham; Rochdale Infirmary, Secretary of; Randall's Advertising Agency, Liverpool; Rousay and Egilshay Parish Council, Clerk of; Messrs. E. J. Reid and Co., Lond.; Dr. W. Russell, Edinburgh.

S.—Mr. R. H. Jocelyn Swan, Lond.; Messrs. Spiers and Pond, Lond.; Mr. C. W. Scrimgeour, Dundee; Dr. J. A. Struthers, Liverpool; Dr. B. B. Sapwell, Aylesham; South Devon and East Cornwall Hospital, Plymouth, Secretary of; Miss E. T. Spurr, Lond.; Messrs. Smith and Sheppard, Dublin.

T.—Mrs. Thwaites, Lond.; Messrs. Tindall and Jarrold, Chelmsford; Mr. D. J. Thomas, Nantymoel.

U.—University College, Dublin, Registrar of.

V.—Messrs. Van Houten, Lond.; Dr. Van Buren, Plymouth.

W.—Mrs. Woodcock, Leeds; W. M.; Messrs. J. Woodhead and Sons, Huddersfield; White Hart Hotel, Margate, Manager of.

Y.—Dr. M. Young, Chester.

EVERY FRIDAY. THE LANCET. PRICE SIXPENCE.

SUBSCRIPTION, POST FREE.

FOR THE UNITED KINGDOM.*		TO THE COLONIES AND ABROAD.	
One Year	£1 1 0	One Year	£1 5 0
Six Months	0 12 6	Six Months	0 14 0
Three Months	0 6 6	Three Months	0 7 0

* *The same rate applies to Medical Subordinates in India.*

Subscriptions (which may commence at any time) are payable in advance.

ADVERTISING.

Books and Publications	Five Lines and under £0 4 0
Official and General Announcements	
Trade and Miscellaneous Advertisements and Situations Vacant ...	Every additional Line 0 0 6

Situations wanted: First 30 words, 2*s.* 6*d.*; per additional 8 words, 6*d.*
Quarter Page, £1 10*s.* Half a Page, £2 15*s.* An Entire Page, £5 5*s.*
Special Terms for Position Pages.